The Builder.

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The New Galleries at the British Museum.

THERE was quite an unwonted gathering at the British Museum last Saturday afternoon, at the private view of the new Galleries, constituting what is called the "White Wing" of the British Museum, in memory of the original donor or founder of the fund which has furnished means for this addition to the Museum. The architecture, of course, assimilates to that of the rest of the building; and in spite of the recent dictum of an eminent contractor, that the British Museum was one of the only two good buildings of modern date (a criticism which throws an interesting light on architecture as viewed by the building mind), it may be said that this admission pretty well disposes of the architectural interest of the new galleries. Their interest lies in their contents. We have one gallery filled with a large collection of Chinese and Japanese paintings, mostly dated, and classified according to their supposed "schools"; and we have another long gallery containing a fine collection of glass,—Greek, Roman, Venetian, German, and French; and a good collection of German pottery; a very fine one of Italian majolica ware; some cases of Rhodian, Sicilian, Spanish, and Persian ware; and last (and, to our thinking, least), a case of French ware, of which Palissy specimens,—those examples of clever realism,—hold the centre place.

Before saying something about the contents of the galleries, it may be of interest to say a word as to the Mr. White whose liberality, though for some time rendered inoperative by legal hindrances, has now at last benefited the Museum. Mr. White, who was a resident in Bloomsbury, died at an early age in the year 1823. His father was John White, son of George, Clerk to the Privileges and Elections Committees, in the House of Commons. William White, having entered at Brasenose, Oxford, and taken his degree, was called to the Bar, and married Caroline Avis Bull, daughter of John Bull, a surgeon at Oxford. Their only child died in its infancy. By his will, dated December 10, 1822, and made within five months of his decease, White directed his executors, in the event of his widow marrying again, or at her death, to transfer and pay over the residue of his property to the British Museum. "For," he says, "from the nation my property came, and when I leave my son enough to be a farmer, he has that which may make him as happy and respectable as he can be in any station, and it is my charge that he be so brought up." The landed property to which the son would have succeeded consisted of the Holms and Hildern estate, near Botley, in Hampshire, and some houses at Cowes. By a decree of July, 1826, the Court of Chancery disallowed the claim of the Museum Trustees to the real estate, as being invalid under the statute of mortmain. Mrs. White died in 1879, when the Trustees succeeded to a total sum of 71,780*l.*, subject to a deduction of 6,369*l.* legacy duty. That bequest has been devoted to a gallery (by the old Print Room) for the remains from the mausoleum at Halikarnassos; and to the new Print and Reading Rooms fronting Montague-street. Whilst William White did not stipulate that his legacy should be expended upon an enlargement of the Museum buildings, he certainly suggested some such use for it. He further directed that his gift should be commemorated, at the Museum, by some inscription, as "Gulielmus White, Arm. Britt. dicavit 18—"; adding:—"This is a little vanity of no harm, and may tempt others to follow my example in thinking more of the nation and less of themselves."

The main interest of the visitors on private view day appeared to centre in the collection of Japanese drawings in the end gallery, the third demonstration of Japanese art which we have had in London this year. These drawings are a portion only of those purchased from the collection of Mr. Anderson, formerly medical officer to the English Legation at Japan. In the cases around the rooms are the larger subjects, consisting of hanging pictures with decorative coloured silk borders, and capable of being rolled up vertically when not displayed, and panoramic paintings on continuous horizontal strips, often of considerable length, and with a roller at each end. In cases in the middle of the room are a number of smaller drawings, either unmounted or mounted in the European manner.

It is to be hoped that in time, after seeing all these various displays of Japanese work, the public will arrive at something like a sound and balanced judgment as to the precise value of Japanese art. At present the votaries are all *tête montée* about it, and there is nothing but indiscriminate worship. A great deal of nonsense has already been talked about this collection of drawings. Mr. Colvin, in his short preface to the catalogue, is, indeed, reasonable enough in his manner of estimating the work he refers to. He says, "In studying the pictorial art of the Japanese, with that of the early Chinese School from which it was derived, it is essential to bear in mind the character of their artistic ideals and conventions, which in some respects differ radically from our own. To imitate on the painted surface, in the Western manner, the actual appearances and multifarious details of any given scene of nature, is a task they have never proposed to themselves. Of the scientific aids requisite to such an attempt they have accordingly remained contentedly ignorant,—of linear perspective almost entirely (while handling aërial perspective with great, though generally quite arbitrary, skill); and of the anatomical structure of men and animals hardly less. Their art is essentially one of decoration and suggestion." This is a very true characterisation; but it is necessary to bear in mind what all this means. When we say that it is not the habit of the Japanese artist to imitate, "in the Western manner," the actual appearances and details of any scene in nature, this, which sounds like a mild criticism of differentiation, is really placing a whole world between the landscape art of Japan and that of the West. To say that there is a mere difference in the manner of regarding and portraying nature is no statement of the case at all. The true fact is that the Chinese and Japanese have no such thing as landscape-painting at all that is worth the name. They merely give a decorative suggestion of features of a landscape, such as might almost as well be produced in needlework. Of the great art of landscape-painting as it is understood in the countries of Turner and Constable, of Dupré and Corot, they have nothing and know nothing. It is absurd to talk seriously of the two things in one sentence, as if they were merely varying schools of the same art, as Mr. Colvin does. But the catalogue in detail is more absurd than this. We find a drawing entitled, for instance, "Grasshoppers on Flowering Shrub: Moonlight." This sounds poetical, no doubt; but what does "moonlight" mean? Simply that there is a round space on the drawing of lighter colour than the rest, which we are told to regard as the moon. There is no effect of moon-*light* of any kind. It is childish playing with words to call such conventional decorative representations "Moonlight." So again we are told No. 25 represents a "Robin and Waterfall." There is the robin plain enough; but as to the waterfall, no one could ever find

it except in the catalogue. Mr. Colvin admits, apparently, that the Japanese cannot represent the anatomical structure of men or animals,—meaning, we presume, specially quadrupeds, because birds and fish they do and can represent very well. But other critics are not so reticent. We have had a great fuss made about the large picture of a tiger on rocks (No. 104), and its remarkable drawing and foreshortening. This is misleading an ignorant public. The drawing is a failure; the artist has attempted a bold feat in foreshortening which he was not equal to, and it is impossible to say where the body of his tiger goes to. The texture with which the fur is represented is no doubt most remarkable, and the more so as it seems to be obtained in a very unlaboured manner. But even in regard to texture and animal character much of 'this work is over-rated. We find in regard to No. 41, "Cat, Plants, and Insects," that it is "a masterpiece of somewhat indeterminate date and style." This may be a Japanese masterpiece, but Mr. Couldery can give us a cat which would reduce that of the Japanese artist to a very third-rate effort. Still worse is such nonsense as "The Storm Dragon" (60), one of a set of three pictures inscribed as having been painted by the artist at the age of eighty-two. The only possible reflection is that he was old enough to have known better.

There are things in the wall-cases that are really fine, apart from any Japanese craze. These are mostly bird drawings; but a "Flying Squirrel" (73) of the eighteenth century and a deer and fawn by Mori Sosen (96) early in the present century, are very fine examples of the representation both of the action and texture of animals. Among the larger bird paintings, the "Pea-fowl and Pine-Tree" (105), and "Pea-fowl and Peonies" (112), both of this century, are particularly fine; the treatment of the tail of the peacock in the latter is well worth the attention of decorative painters: it is not really true to nature, and it is very slightly done when looked into; but the manner in which the brilliant *effect* and the general character of the peacock plumage is conveyed in a simple manner and with broad touches is very remarkable, and shows a great certainty in the hand of the artist,—a knowledge of exactly what he was going to do with each touch.

Of the central cases the first two are occupied by a series of pictures (so-called) telling a story of the destruction of a demon and suite by a hero and suite; the drawings being of the date of the seventeenth century, artist unknown; the colouring very brilliant, and the story told with a kind of child-like humour, in scenes in which figures and perspective are alike grotesque and impossible. There is a certain historical interest in the series, but those who find the humour of it very pithy and amusing must be easily pleased in that respect. These are pardonable, however; as to the demon subjects of a kindred kind dated 1879 (195–6–7), one can only say that the perpetration by any one of such vulgar and repulsive monstrosities is a melancholy fact which would be better kept out of sight and forgotten. The real interest of this part of the exhibition is in the flower and bird pieces, many of which are beautiful in their way, and admirable as decorative suggestions. Nearly all the drawings from No. 205 to the end are worth attention in this respect, but we may especially draw attention to the small collection by a "painter unknown—nineteenth century," which occupy the last cases, Nos. 265 to 273. These are delicate water-colour paintings of birds, realistic in general effect, but just a little conventionalised in detail, each bird painted very delicately in the middle of a sheet of white paper, mostly with no background or accessories. These are all beautiful both in colour and drawing, and well worth the attention of decorative artists; they form the gems of the collection, and considering what ugly and grotesque things are catalogued with their artists' names, one can but regret that the painter of these beautiful bits of work should remain unknown.

The gallery of glass and keramic ware offers a great deal for study and enjoyment, and is a remarkably interesting and rich collection. The upper end of the room is occupied by English ware, including some fine examples of Wedgwood, and some interesting specimens of old Lambeth ware of the seventeenth century. Cases 5 and 6 contain what looks at first sight like a collection of Doulton ware, as far as general character and design are concerned, only that the colouring is more grey and neutral and less rich than that of Doulton's factory; but we see here, in what is really a collection of German pottery, the original suggestions of a great deal of the Doulton ware. The collection of majolica is a large one, extending from case 9 to 21, and including a great deal of that characteristic production of the Renaissance period, the Classical myth subjects, with figures in yellow tones, the artistic value of which may easily be over-rated; its decorative effect, *en masse*, is, no doubt, fine; but in an artistic point of view we prefer the plaques with borders of decorative foliage, sometimes with a small figure subject in the centre. There is one plaque showing the portrait of a lady, half-length, in profile, which is redolent of the spirit of the Renaissance period. The cases of Spanish, Persian, and Rhodian ware show the forms with which we are all now familiar. Passing over the Palissy case, we come to a large series of Greek and Roman glass, containing examples of all shapes and sizes, dependent mostly on form and general design for their effect, and including a small collection of beautiful iridescent glass, the bright and glowing colours of which seem as vivid and rich as when they were first made. The Venetian glass which follows is, of course, more varied and piquant in design, but less pure in taste; there are things, indeed, which are in positively bad taste, such as the glass cup coloured to look as if it were nearly filled with a red wine, showing that Venetian glass-workers could turn out vulgar things in their unfortunate moments. Two cases of German glass follow: a sad descent from the Venetian; little of this is worth much in an artistic sense, though interesting historically; one or two of the large cylindrical glasses covered with heraldic devices are fine in their way, notably one on the second shelf from the top, showing the two-headed eagle emblazoned in a fine broad design, and with sober and rich colouring. Then follows a case of Oriental glass, which raises us to the artistic level again; and a case of French glass which is artistically tawdry and worthless. The comparison of the styles and methods of these various groups is a very instructive study.

A third small room is devoted to English keramic ware. A large case of English porcelain presents nothing but littleness and tawdry productions; a case of Staffordshire ware is purer in taste but with a general commonplace character of design about it. The most interesting portion of this collection is the case of "English Slip-ware," comparatively rough in execution and design, but presenting a breadth of design and power of effect, though only showing various shades of browns, which places it above the more pretentious and finished productions of the other cases.

The large gallery of glass and keramics is, however, a most valuable and important addition to the art collections of London, and one which contains more matter for study and pleasure than we can do more than hint at in this brief comment.

THE ARTISTIC SPIRIT IN MANUFACTURE.*

BY H. H. STATHAM.

In a leading London jeweller's I was shown one day, among other "novelties," a pair of earrings in the shape of models of lady's boots, in solid gold. This was an extreme instance of vulgarity in work of this kind; but it is only a *reductio ad absurdum* of the tendency of modern taste in gold and silver work: the idea being apparently that anything made of gold has an *ipso facto* value independent of its design; and that one of the objects in life is to find some new device into which to work gold, independent of the question of beauty or suitability to the material: "this is the latest thing" being the great recommendation.

Now, we have no business to be content with "the latest thing"; we want the best thing; and therein lies, in fact, half the meaning of the artistic spirit in manufactured work: it means making the thing in the best way possible, in regard to its object and to the nature of the material.

For artistic work of this class differs from the higher arts of sculpture, painting, &c., not only in the fact that it does not illustrate any distinct idea or story, but also in that it is based upon utility; a manufactured work is always something made for a practical purpose; and the first requirement of all is that it should be well made for that purpose; and that it should be made in a manner accordant with the nature of the material used. Nothing badly made can be artistic in spirit, though it may be well made without being in the full sense artistic. Perfect suitability of make, however, especially in elaborate work for important uses, goes a good way towards giving beauty of a certain kind: thus, in a sense, a locomotive engine is a fine and impressive object, from its expression, thoughout every detail, of suitability for its work.

Then what is required beyond good workmanship to entitle an article of manufacture to the definition "artistic"? It is a quality rather to be felt than defined; but the nearest thing, perhaps, that we can come to in defining the quality we want is, that artistic work is that which is not only made in the best way practically, but which represents the maker's individual idea of the best way to make that particular thing, which represents the maker's own individual pleasure and preference, not a mere fashion in which he is following others. It is this condition of working that gives what we call *character* to an object.

Now this view of the matter at once sweeps away the whole world of machine-made work. We cannot have art by mechanical repetition. We are then destroying individuality and consequently character. Artistic quality and feeling in any production is the expression of the mental preference and habit of the man who made it. It is for this reason, too, that there is so little really artistic work to be seen in the large illustrated catalogues of art-work kept in stock,—"terminals, finials, crosses, &c., in every style," *i.e.*, not the style which the present maker likes or takes interest in, but the style which some one else liked certain centuries ago. There is seldom anything in such work, made by patterns and repeated to the order of purchasers, which is in a real sense artistic. The object in making up the patterns is mainly novelty; to do something not because it pleases the maker, but because it has not been done before; and the result of this is that in most cases the best you can hope, in selecting from pattern-books, is to find something inoffensive, negatively good, through being simple and unpretending; and even that is difficult enough to find.

More life and interest might be put into the work made in the workshops of large firms if the artisans were more encouraged to think for themselves, and if the name of the real worker were appended to the work. A "Firm" or a "Co." cannot design: design is the work of an individual mind. But there is no view to which art-work companies and firms are more opposed than this. They mostly set their faces strongly against any bringing forward of the real workman to the front, apparently from an idea that it will injure the standing and prestige of "the firm." They are probably entirely mistaken in this. The cultivation and encouragement of individual talent would improve the character of the work done at the cost of the firm, and, in the advancing state of public opinion on the subject, would probably also raise the reputation of the firm and the respect felt for it. The tendency of public opinion in this respect has been strongly emphasised very recently in the plainly-worded declaration of the Society of Arts, that in awarding prizes

* This article is the substance of a lecture recently delivered at the Birmingham and Midland Institute.

Sketches in Illustration of Paper on "The Artistic Spirit in Manufacture."

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for design in applied art they would reward those who made and not those who sold the articles.

The deadening tendency of this wholesale art-manufacture is shown even in regard to productions such as stained glass, which take rank as something more than manufacture. I may mention a curious and significant instance of this, which came under my own experience lately. A window was to be designed in memory of an official who had administered government well and wisely in one of our colonies, and I suggested to the artists (a very eminent firm) the choice of the figures of Daniel and Joseph (Scriptural figures being *de rigueur*) as types of able and conscientious governors, with quotations having direct reference to this; and hoped that I had thus secured that the window should have a special significance in regard to its object. The quotation chosen for the figure of Daniel was "When the righteous are in authority, the people rejoice"; but on going to see the window complete before it was sent out, we were astonished to find, instead of the selected sentence, the words of Belshazzar's vision, "Mene, mene, tekel upharsin," which, of course, had no sort of reference to the subject. No one in the establishment could say how this came about; but on the suggestion being made that perhaps there was a stock figure of Daniel, and "Mene, mene" went with it, it was admitted that this was something like the truth. Is that "art"?

To return, however, to the immediate subject of articles of manufacture, it is to be noted that artistic feeling in such productions does not by any means necessarily imply costly or elaborate productions; it may be displayed as well in the most simple and unpretending things; and, in fact, absence of pretence is one of the strongest characteristics of the artistic spirit in manufacture. Pretence may be said to consist either in the endeavour to exhibit mere cleverness of execution, apart from any suitability to the purpose for which the object is made, or in the making of anything in imitation of some object supposed to be more dignified and imposing. As an illustration of this latter vice of manufacture, I may instance the case of a ceremonial key, made for the formal opening of a public building, in which the shank of the key took the form of a Corinthian column and capital, the capital simply butting against the handle of the key, with no constructive connexion whatever with it. Here was the employment of a form wholly at variance with the object and purpose of the thing made, merely from a notion that the imitation of this architectural detail was a means of giving artistic interest to the key. Something new was to be done, and in place of thought applied to the production of a design suitable to the purpose and the material, mere imitation of a different class of object was resorted to. This is a typical instance, among many others, of the spirit of falsity and pretence in what is mis-called artistic manufacture.

To come to a simpler class of objects, fig. 1 of the accompanying sketches represents one of Dr. Schliemann's finds, a terra-cotta vase. This, without any ornament, is artistically designed; the handles rise from the base in a fine curve suitable for grasping, and the widened rim is in place both for convenience in drinking and for resting the vase on, inverted, when not in use. If, for the mere sake of change, the handles are designed as in fig. 2, the suitability of the whole is spoiled, and the cup will not stand either way. Figs. 3 and 4, both from Dr. Schliemann's collection, illustrate the same kind of point; the horizontal circles on the one are a natural means of simple ornament for a circular object in the process of turning; in fig. 4 they are placed the reverse way for mere change of fashion, and in a manner contradictory of the real process of manufacture.

Fig. 5, like fig. 1, is an example of artistic treatment of a simple kind; this is a modern tumbler. The slightly-hollowed shape suits the hand, the spread at the base gives stability; the threaded circles round the rim portion give a simple finish to the design, analogous to that of the annulets of a Doric column. This is a very cheap tumbler, and quite without pretence; but it is thoroughly satisfactory and artistic in feeling.

Figs. 6 and 7 are examples of the vulgarity of imitation of artificial objects; and they are both, be it noted, from the much-worshipped art of Japan. Fig. 6, which resembles a basket, is a piece of green glazed earthenware in the South Kensington Museum; fig. 7 is a bronze vessel in the form of a hippopotamus with a lid in its back, also from South Kensington. The sin of No. 6 is that of mere *cleverness*, apart from any consideration of suitability; that of No. 7 is the misuse of animal forms as utensils; a kind of design which, to my mind, is worse than vulgar,—positively offensive to the imagination. I did hear the case put by a well-known decorative artist, that anything well modelled was art, to whatever use you put it; and when I asked him if he would have a butter-dish in the shape of a cow with a lid in its back, he said, "Well, not unless the cow were *very* well done!" I cannot concur in this, as it seems to me that the better the modelling the more is the work degraded by the inevitable lid or spout inserted into it. The use of animal forms as accessory features, as in the Peruvian kettle, fig. 8 (British Museum), is another thing; this is a playful kind of grotesque which is quite allowable, and often gives much force and character to an object, but more especially when the animal form is more or less conventionalised; some of Burges's designs are admirable examples of this. The mere addition of animal forms in the hope of being artistic is a delusion and a snare, as illustrated in the two arm-chair rails from South Kensington, figs. 9 and 10. There can be no doubt that fig. 9 is the really artistic one; the arm is shaped so as to give a fine line, and to be at the same time convenient to the sitter, and the little baluster under the end truly expresses its functions as a vertical support. In fig. 10, the dolphin and the human face over its tail have no connexion either in design or idea, and the vertical support has no connexion with the dolphin form, and no meaning or workmanlike expression: the whole thing is in bits.

Figs. 11 to 15 illustrate, like 1 to 5, character in simple design; 11 and 12 are Persian bottles for scattering perfumes (South Kensington Museum), standing about 14 in. high. In these, without either ornament or imitation of any kind, there is quite an expressive character; they seem to throw themselves into the shapes best calculated for their work; shapes which are also truly expressive of the ductility of blown glass. Figs. 13 (Persian) and 15 (Roman) show, like 5, the characteristics of good outline, with a little simple decoration of a kind suitable to the material applied, so as to mark a special point in the constructive design: in these cases the necking. Fig. 14, a silver goblet (German) is an admirable specimen of expression from contrast of treatment; the upper portion left perfectly plain, and only turned out with a slight curve towards the rim; the lower portion forming, just as in architecture, a rusticated base between two mouldings, giving power to the base, while setting off by contrast the smooth finish of the upper portion.

Fig. 16 is an example of a class of Greek bronze vessels in the British Museum, found at Calaxidi, near Delphi, and all partaking, more or less, of the same character. It is probable that these were made for some special purpose, perhaps sacrificial, and that they are the remains of a special manufactory. A comparison of this example with fig. 1 affords a very good illustration of the kind of character that may be imparted to an object by the mere design of the lines, apart from anything in the shape of ornament. Character is derived partly from unity of idea and feeling in design, — the predominance of a leading motive. In fig. 1 the whole tendency of the lines and shape is vertical; in fig. 16 the whole tendency is flat and horizontal. In both the handles arise from and continue the line of the bottom of the vessel, as if naturally developed from it; both of the objects express a simple unity of principle and intention, illustrating the same artistic quality in two different forms.

It has already been observed that the mere making of an object in the way best suited for its purpose goes far to give it artistic feeling. There is no better illustration of this, perhaps, than an oar, which is a really beautiful object in its lines and in its make, being designed to get the greatest strength possible out of the lightest weight possible, and requiring, moreover, a complete change in the line of force as between the blade and the shaft. The shaft is to present its greatest strength in the direction in which the pull is exerted; the blade is to spread out to resist the water, but at the same time to be strengthened by continuing the line of the shank as a kind of backbone down the centre of the greater part of the blade. The result of these combined aims is an object fashioned with a very delicate modelling of curves and surfaces, done from purely practical motives and with no pretence at artistic expression at all, and which, nevertheless, from the effort to make it perfect for its work, becomes an object of quite a Greek purity of line and proportion. In a lesser degree the same thing may be observed in regard to many other classes of objects which are made as well as possible for these practical objects. There is, for instance, a kind of beauty about the make of a first-class modern rifle, in which every other consideration is subordinated to practical efficiency and workmanlike finish, which makes it an object more satisfactory to the judgment than some of the highly decorated guns of former times, in which the beauty of decorative detail does not in any wise atone for the manifest practical clumsiness of the design in regard to its object. It would be possible, however, to introduce some suitable and well-considered ornament on the stocks of modern guns,—say in the form of inlay,—without in any way interfering with their practical object; and if the artistic spirit were more alive among us, I think we should see that done, and see owners of guns priding themselves on the artistic as well as on the workmanlike finish of their weapons.* Fig. 17, a Fiji war-club (British Museum) shows that a savage can do something of that kind. That is a distinctly artistic object in its way. The slight curve given to the whole club, like that of the Persian perfume-sprinkler (fig. 12), gives an expression of bending to its work; the handle is admirably shaped for a grip and distinguished by being left smooth; the body of the club is covered with a carved ornament which, by roughening it, rather increases its effectiveness for its benevolent purpose, and at the same time affords something of interest to the eye. In a simpler way fig. 18, the head of a Roman skewer (British Museum), shows artistic spirit in the same sense as the tumbler (fig. 5). It is shaped in the best form for grasping by the hand; the turned ribbing forms a simple ornament contrasting with the smooth curve of the finish of the handle, and giving at the same time a better grip for the hand. It is somewhat curious to note the same system of turned moulding in the building up of the leg of the Egyptian chair (fig. 18A), though here the main curve is inward instead of outward, giving a spread to the foot, as rational treatment requires. The leg of this Egyptian chair is an admirable piece of design of the kind,† but the joining on of the cross rail is not quite satisfactory.

As a specimen of more elaborated work, the portion of an Indian salver, fig. 19 (from one of the plates of the *Journal of Indian Art*), affords an example of the trouble that is taken by an artistic workman, in the arrangement and contrast of decorative design in different portions

* At the Midland Institute this point was illustrated by two guns produced from the South Kensington loan collection in the Birmingham Art Museum, the able curator of which, Mr. Whitworth Wallis, kindly lent various objects to illustrate the lecture. One of these guns was an old German one, very richly ornamented, but utterly clumsy and inconvenient in the shaping of the stock; the other was also an old though much later flint-lock gun, of English make, in which the stock was slightly modelled on the surface, in such a way as not to interfere with its general shape, and the main line of the contour emphasised by a simple inlay terminating in a spiral. Even this is more ornament than any modern gun-maker would allow himself, but this was perfectly suitable, and gave an additional finish to the weapon, without in any way impairing its practical efficiency.

† I have adopted this form, with a little modification, in some chairs made for me by Messrs. Bartholomew & Fletcher.

of the same object. The centre and the rim here have their distinctive treatment, the rim in no less than four concentric circles of ornament, each with its own special design carefully worked out, and the centre filled with a noble bit of flowing floral ornament, contrasting in manner and treatment with the other portions. The amount of thought in design, and labour in execution, bestowed on this one object, is very remarkable, and forms an example of the spirit in which elaborate artistic work is to be done; sparing no thought and no labour in aiming at the greatest perfection of which the workman is capable. Birmingham readers may contrast the spirit of this work with that of a certain brass Belgian ewer which unworthily occupies a corner of their art museum, and which was produced on this occasion as an instructive warning. This is a large *repoussé* vase decorated (?) with a series of scollops in relief, laboriously repeated round the upper and lower portions of this vase with mechanical exactness. The man who made the Indian patera obviously enjoyed his work; but what enjoyment could be got out of beating out a series of scollops? That is simply labour at so much an hour, to produce what the man who made it did not care for, and what no one who sees it cares for.

As before observed, it is this evidence of pleasure in the work which goes far to mark and distinguish the artistic spirit. Take the Japanese knife-handle, fig. 21. This is one of a class of objects which exist in numbers in Japanese collections in London, and it is nothing uncommon or out of the way in Japanese work of this kind. The whole surface is covered over with a diaper ground, which to the Japanese mind, I believe, represents water. I would rather there were not this pretence about it, rather regard it as merely a simple and effective diaper to break up the surface. On this dark undulating ground is relieved the bud, with the two leaves springing from it in such beautifully designed curves, a similar leaf terminating the strip of metal round the end of the handle. The spray with the two leaves has almost the delicacy of line and detail of a bit of natural foliage. We all know what are the average handle "patterns" of English knives and forks: compare them with this delicate little bit of work.* Fig. 20, an Icelandic wooden kettle belonging to Mr. Rogers, and which he kindly lent to me to illustrate a lecture at Carpenters' Hall some time since, is another example of the same kind of spirit. The body of the kettle is utilitarian; it has to be put together carefully, and ornamental treatment would be practically out of place; but the lid offered a suitable field for ornament, and the maker has indulged his fancy and his pleasure in workmanship by carving on it in low relief a bit of scroll ornament, almost as delicate and refined as Greek work. Again, the man who made the grotesque wrought-iron knocker (fig. 22) did it because he liked it; it amused him to hammer it, not into the imitation of any animal, but into a distant suggestion of grotesque animalism, which hammers with broad hoofs on the door-plate when the knocker is used. Fig. 23 is a pattern-list knocker, and one of the least objectionable in the list from which it is taken; but can it be supposed that the man who made that cared at all about cutting parallel slits across and making a circle between them? A new pattern was wanted, and something had to be put on it, and something was put, not because the workman cared about it, but because he had to do something to produce a new pattern far the sale book. Far better to have the plainest solid ring of brass than this thing with nicks and circles cut on it pretending to be ornamental.†

Architects' Benevolent Society.—The annual general meeting of the subscribers and donors will be held in the rooms of the Royal Institute of British Acchitects, 9, Conduit-street, W., on Wednesday next, the 14th inst., at five o'clock.

* As will be seen by other remarks above, I am no blind admirer of all things Japanese; there is good and bad in Japanese as in other work, but the good is very good.

† To be concluded in our next.

ITALIAN RENAISSANCE DETAIL.

THE history of architectural ornament presents no page more remarkable than that which illustrates the decorative features of Italian Renaissance architecture. Far inferior in purity of style to the best Greek, Gothic, or Byzantine ornament; full of offences against good taste; presenting often features of fine and pure ornamental design mingled, even in the very same work, with tawdry and frivolous puerilities, it fascinates us by its very variety, multiplicity, and redundance of character, in which it seems the true reflection of that period of exuberant life and enthusiasm of artistic production in which it was developed.

The ornament of this school seems designed on no guiding principle except that of filling a space as fully and evenly as possible with enrichment. It consists mainly of Roman elements and forms, enlarged upon and varied by Italian fancy. In many instances we have scroll and leafage forms which are as abstract and conventional as possible, and which are imitated from that portion of Roman work which retained most of Greek feeling; for it is only as seen through the Roman medium that Greek decorative art can be said to have had any influence on the Renaissance designers. Then, again, the taste for the employment of human and animal forms, or portions of them, intermingled with floral design, which was so prominent in Roman work, was carried out by the Renaissance artists with a licence and a tendency towards the grotesque of which there is nothing in Roman work. Unfortunately, too, the worst feature in Roman work, the employment, — comparatively sparing among the Romans,—of artificial objects arbitrarily grouped or strung together, seems to have taken captive the fancy of the Renaissance artists, who developed this undesirable school of ornamentation far too profusely. There is a certain charm of association connected with it now; it is one of the characteristics of a great artistic period; but it is, for all that, a style of ornament which, apart from association, can only commend itself to a vitiated taste.

The turn of fashion, in leading us back again to Renaissance architecture for inspiration, has naturally revived the taste for Renaissance ornament, a taste which has mostly not been exercised with a very severe and critical judgment, the object having been rather to revive old characteristics because they bear the stamp of the Renaissance, than to select the best.

The publication of a new book of drawings of Renaissance ornament,* tolerably representative in its contents and of which the author says that he has endeavoured to bring together a collection of measured detail that may be of use to all lovers of this style, rather suggests a consideration as to how much of this is really of the kind which can be regarded as a desirable model for study. Mr. Oakeshott has made a very good selection, with the desire to avoid that which was well known or had been frequently published before, and his volume does not certainly contain a very large proportion of the more questionable class of Renaissance ornament, which must, of course, be represented to give a true idea of the style; but there is a certain proportion of it which, for purposes of study, might serve rather as a warning than an example.

The plate which, by Mr. Batsford's permission, we have reproduced on a somewhat smaller scale from Mr. Oakeshott's book (see lithograph in this number), the doorway of the Piccolomini Library in the Cathedral of Siena, gives a good deal of example both of the strength and the weakness of this school of work. Its strength lies in the admirable distribution of the ornament for the production of a generally rich effect, in the full manner in which the spaces are filled up, and in a certain largeness and vigour of manner which is a special characteristic of genuine Renaissance ornament as distinguished from much of the modern imitation of it. This is shown in the bold design of the great wreath supported by *putti* in the tympanum over the doorway, and to a certain extent in the frieze, of which an enlarged detail is given, though this latter is not equal to some similar examples. The frieze of dolphins in the lower cornice is very pretty; but the weakness of Renaissance detail is sadly shown in the ornament round the architrave of the door, formed of heterogeneous objects strung up together, and this is made still worse by the device of making the cord and its appendages assume, above the door, the line of a pediment. Nothing could well be more tawdry or in worse taste than this; and yet, as another of the contradictions of Renaissance work, the ornament filling the small shields hung up on the festoon, which is shown to a large scale on plate xxxix., is very good and very pure in style.

Between the conventional acanthus foliage borrowed from antiquity, and the mere realism of ribbons and knots, masks and festoons, Renaissance ornament presents a class of semi-conventional foliage ornament of very fine type, suggested, perhaps, by some Roman work, but improved and refined upon, and sometimes not unworthy of comparison with some of the semi-realistic flower forms of Greek work. A good and very carefully drawn example of this class of work is given by Mr. Oakeshott in the details of a tomb in the Duomo at Fiesole, plate v. The complete monument, a very rich and interesting design, is given on the preceding plate. Very fine also is the detail, somewhat more conventional and symmetrical in character, from the monument by Mino de Fiesole in the church of La Badia, Florence (plate iii.), in which there is an interesting variation on the Greek honeysuckle type of ornament. The mingling of ornament of different types is shown again in the porch of Sta. Maria dei Miracoli, at Brescia, of which the greater part is filled with dolphins and the conventional cornucopias and festoons, while in the haunches of the gablet are bas-reliefs of torches held up in wreaths of perfectly naturalistic foliage. This introduction of naturalistic foliage in one or two corners of a design, of which all the other ornament is conventional, is such a characteristic of Renaissance work in Italy that it almost seems as if there had been some recognised motive or reason in it, though what this could be it is hard to understand. There is a typical and very fine example in a large square monumental slab familiar to frequenters of the South Kensington Museum (the title of which has escaped us at the moment), in which everything is in the finest conventional style, except a couple of sprigs in two of the small panels.

It is curious to notice that the exuberance and questionable taste of the Renaissance detail seems tamed down and reduced to order under the influence of the more severe ornamental method of inlay, at least in comparison with carved work in the same situation. Thus in the details (plate ix.) of that same porch at Brescia just alluded to, we have, side by side, a carved panel covered with the usual ribbon and cornucopia kind of stuff, and a piece of inlaid floral ornament from a pilaster panel in the jamb of the doorway, which is in a pure style of flowing conventional foliage of beautiful design. It is difficult to understand how the architect who could design and enjoy this latter bit of work should not have perceived the objectionable character of the other. However, inlay did not always produce this salutary effect, for the illustrations of the tarsia work from the Duomo of Perugia (plate xxviii.) show a representation of a built-up candelabrum form with tripod foot, shown in perspective, and with all sorts of curiosities hung on to it. It is almost a pity the author took the trouble to draw this; it can serve no purpose except as a warning.

The finer type of conventional foliage work, interspersed with grotesques, is well illustrated in the details of the marble pulpit staircase at Siena (plates xxix., xxx.), which have been drawn with the greatest care and finish, and form two of the best plates in the book. Nothing could be better of its kind than this ornament; the curves are all clearly and truly drawn, the foliage bold and broad in character, and the spaces evenly filled up,—one of the

* Detail and Ornament of the Italian Renaissance. Drawn by G. J. Oakeshott, Architect. London: B. T. Batsford. 1888.

great characteristics of good surface ornament. Some fine bits of ornament of this class from the Laurentian Library at Florence are also given on plate xvii. Three plates (xxii.–iv.) are devoted to illustrations of wrought-iron work, and all this is admirable, and in the true spirit of wrought-iron work; making us again wonder how the same race of artists who saw their way so clearly to the right thing in the decorative treatment of this material, should have revelled so inordinately in the ribbon and festoon business; but this is one of the many puzzles of the Renaissance epoch.

Apart from decorative detail merely, a good many of the architectural designs shown here in full (porches, doorways, tombs, &c.) are very good examples of the distribution of ornament and the varied treatment of cornices, pilasters, and capitals. Indeed, the variations of the Classic capital alone, in Renaissance work, would form an extensive and interesting subject for study. The richness of decoration lavished on much of the Renaissance architectural work is remarkable, and in the case of one or two of the subjects illustrated there is even an approach to the over-elaborated extreme of the Spanish plateresque. There is a charm about this richness of surface, but it seems sometimes a little overdone; and we do not know that any bit of architecture in the book is pleasanter than the single bay from the Sacristy of St. Maria Maggiore, at Bergamo, shown in elevation on plate xxxix.

The drawings for this work have been made by Mr. Oakeshott as Aldwinckle student, and form a most worthy and satisfactory result of the travelling studentship given in 1886 by Mr. Aldwinckle, through the Council of the Institute of Architects. In some cases we think a better result would have been produced in the effect of the drawings (especially the general elevations and perspectives) by fewer lines and less elaboration of shading; the carved work from a tomb in the Campo Santo at Pisa, for instance (in the middle of plate xxxii.) is spoiled by the line-shading drawn across it. The best of the detail, however, is most clearly and carefully drawn. The book is a very ornate volume, and a valuable collection of examples of the style. Let these be used, however, with critical judgment; for selection and suggestion, with due consideration of the weaknesses as well as the beauties of the style; not for a thoughtless repetition and indiscriminate copying.

NOTES.

LORD SALISBURY styled the debate on the second reading of the Railway and Canal Traffic Bill "a pitched battle between Free Traders and Protectionists." This sufficiently indicates that the discussion turned upon the extent to which preferential rates are to be regarded as bounties, their lordships mainly arguing the matter from this point of view. The Earl of Jersey's motion was short, simple, and decisive, and the principle embodied therein has been thoroughly approved by traders of all sections:—"That no general measure dealing with railway traffic can be considered satisfactory which does not prevent preferential rates in favour of foreign imports." There cannot be the slightest doubt that if the Bill were passed as it stands, many of the anomalies at present complained of would be perpetuated; for an appeal to the Court would be necessary in every case, and as the right for such appeal is already in existence, it may be taken as proved that something further is needed to meet the necessities of the case. It was argued that any prudent person would hesitate before bringing an action against a railway company, reference being made to the case to which we alluded in our remarks upon this subject last week [p. 149 *ante*], in which a claim for 18*l.* against the Great Western Railway Company had to be fought up to the House of Lords. So long as legal sanction is given to preferential rates in any form whatever, the railway companies will find a way to favour traffic for which there is sea competition. Lord Bramwell opposed the amendment, ostensibly in the interests of consumers, stating that if it was declared that foreign cattle should not come by railway from the port at a low rate, they would go on to London by water at greater expense and at greater risk of injury. It is not easy to see the force of the latter part of this argument, and, as regards expense of conveyance it was remarked that the natural means of transport from a foreign country was by ship to the nearest port, and that the railway company had diverted a great deal of the traffic by underbidding the shipowners. Seeing that forty-five peers supported Lord Jersey's proposition, it seems quite possible that it might have been carried but for the fact that its acceptance would have involved the loss of the Bill,—although, as Earl Beauchamp pointed out, there is plenty of time at this early period of the Session for an amended Bill to be introduced. The amendment was, however, defeated by a majority of twenty-seven, the Bill being then read a second time.

A CONTENTION has lately been raised on behalf of the South Metropolitan Gas Company which may very well create a doubt as to whether the consumer always gets his due in respect to the illuminating power of gas. Mr. George Livesey, the Chairman of the foregoing Company, has complained that owing to the introduction of "an improper photometer" at one of the gas-testing stations, his company has been compelled to use,—or rather, as he says, to waste,—an extraordinary quantity of cannel coal during the last half-year in order that the gas, as tested by this photometer, may exhibit the proper degree of light. The consequent loss to the company, in the course of the half-year, is represented as amounting to 2,500*l.* Attention, however, must be called to another fact, which may possibly have some bearing on the case. In the year 1886, the proportion of cannel carbonised at the South Metropolitan works was only ·39 per cent. of the total quantity of coal put into the retorts. The Commercial Company, bound to supply gas of the same lighting power as the South Metropolitan, found it necessary to mingle its coal with 3·56 per cent. of cannel. The Chartered Company has to supply a portion of gas having a lighting power four candles higher than that sent out by the other companies. But the total volume of gas furnished by the Chartered is so enormous that the portion possessing exceptional lighting power is only 3·53 per cent. of the whole, and, therefore, has little to do with the general result. The company's percentage of cannel coal is 1·98, or five times the proportion used by the South Metropolitan, the Commercial percentage being ninefold. It is also to be observed that the South Metropolitan makes quite as much gas per ton of coal as the Commercial. Is the small proportion of cannel formerly used by the South Metropolitan Company to be explained by the fact that the gas was tested by a photometer capable of exalting 16-candle gas into gas of 18-candles? Mr. George Livesey puts the case the other way. He complains that owing to the introduction of the new photometer, his Company has been obliged to supply 18-candle gas in order to get credit for gas of 16-candles. The authorities in this matter are the Gas Referees. Their secretary, Mr. A. Vernon Harcourt, joins issue with Mr. Livesey, and asserts that the photometer against which complaint is made is really the correct one, the instrument it has superseded being one which gave a false result by restricting the supply of air to the gas-burner and the candles. It is perfectly clear that there is or has been something wrong. Either the South Metropolitan Company is being unfairly burdened by the recent action of the Gas Referees, or the public have been damaged *pro ratâ* for many years past by the aforesaid Company.

DR. G. VON KNORRE has recently been making somewhat extensive investigations on the phenomena attendant on the corrosion of lead pipes, the results of which he has communicated in a paper to the *Gesundheits-Ingenieur*. In damp air, as is well known, a freshly-cast surface of lead soon becomes coated with a closely-adherent film, the result of oxidation, and this will protect the metal from further deterioration. If the air be perfectly dry the metal will undergo no change at ordinary temperatures. Water that contains no free oxygen will not dissolve lead, but if the water be shaken up with air it will take up in two hours about one-tenth per cent. of the metal. An already oxydised surface will be corroded in this way, and when lead is exposed to air and water alternately oxidation is extremely active. Some waters dissolve lead more readily than others; for instance, carbonic acid and some bi-carbonates retard the action; while chlorides, nitrates, and decomposing organic substances will hasten it. It has been stated that lime water powerfully attacks lead, but Dr. von Knorre found that lead shavings were unaffected by lime water so long as air was excluded, but on the admission of air the metal was vigorously attacked. If lime water or lime mortar be brought in contact with lead pipe a pale yellow oxide of lead is speedily formed. The chemical reaction is as follows:—Hydrated oxide of lead, formed in the presence of oxygen and moisture, is dissolved in lime water and partially precipitated as yellow oxide, free from water. This precipitate might be formed upon lead pipe in mortar or cement containing caustic lime, in the presence of air and moisture. Dr. von Knorre examined two specimens of corroded lead pipe. They contained in the corroded parts 99·05 and 99·37 per cent of oxide of lead. The latter sample was embedded in a mortar which was found to be extremely alkaline, containing large quantities of caustic lime. In some cases a white basic carbonate of lead is found, instead of the yellow oxide. In some corroded pipes of the Berlin waterworks that have been examined in order to throw light on this question, the corroded part was white, and it was found that in the absence of caustic lime the hydrated oxide may be decomposed by the carbonic acid gas contained in the atmosphere, the result being the white basic carbonate. It was shown by analysis that when pipes were corroded in this way varying amounts of sulphuric acid, nitric acid, and chlorides were also present. It was concluded that these substances have an important influence in setting up corrosion, and the action was illustrated by its analogy to the method of manufacturing whitelead with small quantities of acetic acid in dung-heaps. In this process the acetic acid is simply a vehicle, for the acetate of lead is converted, as soon as formed, into carbonate of lead by means of the carbonic acid evolved. Nitric acid would act in a similar manner, and in impure soils containing decaying organic substances, lead will be soon corroded if oxygen is not excluded. The facts collected by Dr. von Knorre are of great interest, and should not be forgotten by those connected with the question of water supply. It is, however, consoling to know that, though lead pipes may be attacked in the way described, it is seldom that the whole of the conditions are combined which are necessary to set up the chemical reactions named. Mr. Oesten, in discussing the paper, said that, out of twenty thousand lead house-connexions in Berlin, a year's careful search had only revealed eight cases of corroded lead pipe. Still, eight cases a year is a sufficient number to command attention.

A STATEMENT has recently been made as to an unsuspected action of salt water on steel plates, which, if it should prove to be confirmed by experience, will be likely to influence the future use of the metal for structural purposes. It is said that the surface of steel vessels, when afloat, is found to be subject to a kind of pitting, which has not been remarked in iron vessels, and which threatens the durability of plates, one of the supposed recommendations of which is that they may be thinner and less weighty than iron. In connexion with this point of the corrosion of steel, the Surveyor of Shipping to the Trinity House, Mr. Frank C. Goodall, writes to a shipping journal to say that he has been for some time experimenting with a material called Chinese soapstone, as a substi-

tute for the ordinary metallic pigments used in paints, and has found it to possess qualities calculated to make it an effectual remedy against this kind of rust. It does not appear that Mr. Goodall is actuated by any motives but a desire to promote the true interest of shipping in calling attention to the facts arrived at by his experiments, as he expresses the hope that their publication will induce some one in the trade to make experiments with the view of producing a protective paint by the use of this material.

NOW that there is a prospect of aluminium being so much more extensively and cheaply produced through the medium of electrical furnaces, information as to its physical properties is of value. Mr. E. D. Self has been making inquiries in this direction, the result of which he has made public through the medium of the journal of the Franklin Institute. In the year 1850 Dr. Percy made an alloy consisting of 10 per cent. of aluminium and 90 per cent. of copper. Pieces of the Cowles Company's 10 per cent. bronze, 6 in. long between the shoulders, were tested at the South Boston Ironworks, the highest tensile strength being about 43 tons (96,434 lb.) to the square inch, with an elastic limit of nearly 38 tons (85,034 lb.) to the square inch, and an elongation of 1 per cent. Another 6-in. piece with a tensile strength of 92,441 lb. and an elastic limit of 59,815 lb. had an elongation of 2½ per cent. Another piece of 10 per cent. bronze ½ in. diameter and 2 in. long between the shoulders had a tensile strength as high as over 52 tons (114,500 lb.) to the square inch, and an elongation of 35·71 tons (80,000 lb.), and an elongation of 0·05 per cent. Compressive tests with two pieces, each ½ in. in diameter, and 1·845 in. and 2 in. high respectively, buckled under 14,500 lb. and 9,600 lb., and broke under 25,000 lb. and 18,100 lb., equal to about 56 tons and 39½ tons to the square inch. The results of these and other tests of different samples of aluminium bronze are given in the eighty-ninth volume of the Proceedings of the Institution of Civil Engineers, p. 67.

PROFESSOR E. B. TYLOR, in an interesting note on Anthropology and Archæology in the first number of the *Archæological Review*, edited by Mr. G. L. Gomme, calls attention incidentally to the mischievous effects of restoration with regard to sculpture. An investigator (Mr. E. S. Morse in the bulletin of the Essex Institute, vol. xvii.) who had carefully compared the modes in which the archers of various nations released the arrow from the string, saw with surprise that the figures of bowmen on the classic sculptures from Egina, discovered by Professor Cockerell, casts of which are in the British Museum, showed an attitude of grasp which was impossible. It proved that the hands had been restored by Thorwaldsen, and that the anthropological method touched reality with a closeness beyond the means of unassisted archæology. A noteworthy feature of the new review is what the editor calls "Index Notes," or a list of the papers contributed to the archæological societies of the United Kingdom during the years 1886–7, which it is proposed to continue from time to time.

THE first number of the *Denkmäler*, edited by Professor Brunn, to the programme of which we lately drew attention, has just been issued. The corresponding text has not yet appeared. The monuments selected for this first number are as follows:—(1) The Apollo of Tenea; (2) an archaic bronze head found at Athens,—two views; (3) relief of Æsculapius seated; (4) the "Barberini Faun"; (5) busts of two Satyrs, one in bronze, the other in marble. As the publication comes from Munich, it is not surprising that the Munich Glyptothek is three times represented, by Nos. 1, 4, and 5, but as the contents of this museum have all been already admirably photographed it is, perhaps, matter for regret. By far the most interesting of this first series of plates is No. 4, the Æsculapius relief. It was found quite recently at Epidaurus, and, so far as we are aware, has been nowhere before published. It represents a very noble type of the god seated, and recalls in manner the east frieze of the Parthenon. It is an excellent plan to add to each plate a scale in mètres.

THE second volume of *Antike Denkmäler* (for 1887) is just issued. It fully maintains the reputation of its predecessor. As before, all departments of archæology are well represented, but architecture comes in for an unusually large share. Five plates are devoted to the thorough illustration of the well-known but never before adequately published S. Remy Monument. Sections, ground-plans, and architectural details of each story are given, and the decorative sculptures are reproduced in phototype plates. A sixth plate is devoted to two very early Ionic capitals found in the recent Acropolis excavations. Their colouring, which is of the most delicate description of various shades of red, green, and yellow, is reproduced with the utmost care; a detailed examination of these capitals is promised in the third issue of the *Jahrbuch*. But, perhaps, the plate which has the widest claim on popular interest is that (No. 10) which reproduces in coloured facsimile for the first time two of the archaic statues found near the Erechtheion. Their effect is certainly very surprising. The statue of earliest type not only has her chiton decorated with stripes of vivid green, and her mantle bordered with palmette and wave pattern of red and green, but her long formal hair is a vivid red, and, more surprising still, her eyes are of the same colour. Another plate is devoted to the newly-acquired Etruscan sarcophagus of the British Museum, to which, at the time of its acquisition, we drew attention. Woodcuts are added of the "objects" found with the sarcophagus. Vase paintings are represented by a very interesting amphora of the sort that used to be called "Tyrrhenian," at Corneto. It represents the slaying of the Niobids in very primitive fashion, and is, if we are not mistaken, the first *black figured* representation of this myth that has been discovered. Last come three whole lekythoi (plate 23), with representations of the familiar scene of Charon and his boat, but conceived after a new and very interesting fashion. They are fully discussed in a paper in the accompanying *Jahrbuch*. We can only note here the pathos of two of the scenes in which the death of children is represented,—in one an eager little maiden rushes on to meet the dread boatman, not knowing that there is no return from the pleasure trip in that strange craft. In another, Charon comes to fetch a baby boy. He approaches softly, and the child looks up in pleased wonder. The mother stands by holding the boy's pet goose, the household plaything of the Greeks.

THERE seems now to be a set in Liverpool in favour of a small cathedral on the site of St. Peter's Church. If the city means to be contented with a second-class cathedral the site will do well enough. A building to cost 100,000*l.* is now spoken of. The funds are more likely to be raised for that than for the larger scheme, but it seems a rather lame and impotent conclusion to the grand competition scheme.

WE are glad to hear that an effort is being made to secure a good representation of Architecture in the Art Department of the Glasgow Exhibition. The Exhibition will consist of drawings, photographs (of buildings designed by the exhibitor only), models, and decorative articles connected with Ecclesiastical or Domestic Architecture. There is every reason to believe that the representation of art in the Glasgow Exhibition will be a very good one, and we hope architects will take care that their branch of art is well illustrated.

A QUESTION was asked in Parliament on Tuesday night as to the building of a hotel on the Eyot near Weybridge Ferry, not far above the intake of a water company. We have before referred to the subject. It appears that the Thames Conservators have no power to interfere as to the building of the hotel, they have only power to prevent pollution of the river when they have evidence of it; and they have instructed their officers to keep a strict inspection as to what passes from the Eyot into the Thames. Mr. Ritchie said, in his answer to Mr. Dixon-Hartland's question, that according to the description which accompanied the plans submitted to the sanitary authority in January last, all the closets were to be on the earth system, and slop water was to be disposed of in the kitchen garden, which, it is stated, will exceed half an acre in extent. We hope every precaution will be taken, but it seems to us a foolish project, creating sanitary dangers which might have been avoided.

WE have received a copy of a letter addressed to the Town Council of Brighton, signed by the names of fifteen gentlemen who are, we presume, architects living or practising in Brighton (the names of some of them being known to us as such), in the following terms:—

"To the Town Council of the Borough of Brighton.

Gentlemen,—Having seen, by reports in the local journals, that it is contemplated to expend a sum of 21,000*l.* upon improvements to the Town-hall of this borough, we, the undersigned, beg leave respectfully to suggest that on an occasion of such importance the architects of the borough should have an opportunity of offering advice and submitting designs in competition for the proposed improvements, which will probably involve an entire re-modelling of the present building, and we feel confident that the interests of the borough will be best promoted by adopting this course."

If it is the intention of the Brighton Corporation to make extensive alterations to the Town-hall without employing an architect, no doubt the local architects are right in their position that the course they suggest would be better for the interests of the Borough, though it is, perhaps, a question whether the suggestion comes quite suitably from themselves. But is it the intention of the Corporation to employ *no* architect?

WE hear that the excursion to Italy for members of the Architectural Association, originally organised by Mr. Blashill, is to be repeated, the 23rd of this month being the day for leaving England; and the Secretary of the Association writes that some disappointment is felt at the small number who have proposed to go. The excursions are not, of course, intended for those who gain travelling studentships and have thereby means of their own for going, but for those who have little time to spare, and may get through a greater amount of work at less cost, by having their travelling arrangements made for them. Three weeks is allowed for the excursion, at a cost of 25*l.*, including all necessary expenses. The towns visited are Milan, Bologna, Florence, Siena, Orvieto, Rome, Pisa, and Genoa. Members of the excursion wishing to prolong the tour and visit other places will be put in the way of doing so on the best terms. Although such an excursion is necessarily a hurried one, we strongly recommend those who may have no other or no such convenient opportunity of visiting Italy to avail themselves of it. As we said in relation to the first excursion, to see the real thing even for ten minutes is better than only seeing it in books.

A GOOD many years ago we remember commenting on the foolish taste shown in the form of the present made by the *Daily News* proprietors or staff (we forget which) to their "Besieged Resident in Paris," which consisted of a silver model of Fort Valérien. There seems to have been no improvement in taste and perception in regard to such things since that epoch, for here is the Corporation of the City of London presenting the Prince and Princess of Wales with a silver model of the Imperial Institute building as a gift on the occasion of their silver wedding. A more foolish gift could hardly be given. Silver is a very bad material in which to make a model of a building; a far prettier and more truthful model could have been made by the ordinary methods of architectural modelling, the sole superiority of

the silver model lying in its mere bullion value. If the Corporation had spent the same value of silver in having a commemorative design of a decorative character made by a good artist in such work, they might have given the Prince and Princess a really beautiful gift instead of a foolish toy.

OLD HOUSE WORK.*

IN setting out in search of old houses, in England at least, one finds few, especially town houses, of an earlier date than the commencement of the seventeenth century. On the Continent it is different; the great cities of the Hanseatic League, for instance, still remain, and some architecturally, at least, almost unchanged. An old city like Bruges tells the history of house architecture by itself. When Bruges declined, Antwerp took its place, and besides these two, there are many others,—Ypres, Ghent, Louvain, Malines, &c.,—sleepy towns they are called, but how full of life and interest to the student. This is the land of brick, and from these houses our own "Queen Anne,"—I mean the old genuine one,—sprang. In Normandy and Brittany we find the wood and plaster work in perfection, the best examples being of the fifteenth century. One of the finest is in La Grande Rue, at Morlaix, but all the towns in these provinces, Rouen, Lisieux, Dinan, &c., are full of grand old timber houses, more ornamental than most of the remains to be found in England, which is perhaps owing to the fact that the work is earlier. When we find early work in England, as at Lavenham in Suffolk, it is nearly as rich. In other parts of France, on the Loire, for instance, the stonework of the time of François I. is the attraction. Take, as an instance, the bijou town-hall at Beaugency; and wherever we go through the picturesque gabled streets of Germany, or under the lovely coloured façades of Italy, we find old work everywhere, and everywhere good. But it is with England especially that we must content ourselves to-night.

Here, as I said before, the earlier work has to a great extent been swept away, partly by fire, partly by the march of modern improvements,—to be printed with the usual query. There is the Jews' House at Lincoln, with its old Norman window and doorway, and one occasionally, too, comes across fragments of early Gothic work in houses altered in later dates. The oldest small country-house I know is Little Wenham Hall, in Suffolk, of the middle of the thirteenth century. The hall is on the first floor, the whole length of the building, with the chapel opening out at the end of one side; there are cellars or rooms below and a room above. I think we gain the best idea of what thirteenth and fourteenth century domestic Gothic was like from some of the monastic remains in England. But although these are few and in ruins, enough remains to show that they are very unlike, particularly in principle, most of the buildings of the present time erected with the details, I cannot say in the style, of these two centuries. The old men knew the limits of Gothic as well as they understood its beauties. Even using lead lights and casements, as they did, the windows of their living-rooms are more often than not square-headed. Sometimes in England, and frequently in Belgium, the windows have traceried heads, but the opening itself is square, as the tracery is sunk, not pierced through. In fifteenth-century work one certainly oftener finds the windows pierced with cusps, or the head four-centred; but as the iron casement, the only portion that opened, always stopped at the springing, the effect is satisfactory. Of this century we have many more examples than of the preceding ones; in Somersetshire, especially, they abound; but the most charming specimen (it deserves a glass case) probably in England of this date is Great Chalfield Manor House, in Wiltshire.

It is not, however, until we get well through the sixteenth into the seventeenth century that we come across numerous examples of old houses in England. But then we find them everywhere, and find them in perfection, fit to compare with the buildings in any other country in the world. They are of no "style," as we understand the word now; the seventeenth century workman thought for himself, he was not bound by any rules, nor fettered by any one style, he had, to a great extent, shaken off the Gothic yoke, and had not yet placed his neck in the Classic noose. The old traditions had been upset, but not entirely swept away; the workman still clung to them, although he allowed himself to take liberties with them. It took more than a century to really change the style in England, and even then in many outlying districts it practically remained unchanged.

Now let us go back a bit and trace quickly the rise of the Renaissance in England. It was first introduced here by foreigners, and the work was foreign. Torregiano, the Italian, designed Henry VII.'s tomb in Westminster Abbey, and Hans Holbein painted the ceiling in the Chapel Royal, St. James's, in 1540. There is some early Renaissance work in Winchester Cathedral, and also in the Church of St. Cross close by. At Christchurch, Hampshire, there are two chantries which have Renaissance detail mixed with Gothic, and one is dated 1529. There is another chantry in the same aisle as this last, the south, dated 1525, which is Gothic throughout without a trace of the Renaissance. Now, this is particularly interesting as tending to show when this Classic work was being introduced in England. It was at first totally different from the work done afterwards in Elizabeth's reign: as a rule, all early Classic in England is termed Elizabethan or Jacobean,—there is as great a difference between this early work (which one can call Renaissance) and Elizabethan as there is between Elizabethan and Gothic. It extends, roughly speaking, from 1520 to 1560; then it died, and Elizabethan took its place. Sutton Court in Surrey, Layer Marney in Essex (perhaps the earliest example of all), and Athelhampton in Dorset, are a few good examples. It was designed and executed entirely by foreign workmen. These men undoubtedly often worked on one part of a building whilst the English workmen were erecting another. One sees this at Hengrave Hall in Suffolk, at Layer Marney, and in most of the buildings erected at this time. I can imagine there were many quarrels among them, and the English cudgel must often have been opposed to the Italian knife. Neither learned much from the other; each was content to keep to his own groove. These foreigners were probably introduced by Henry VIII., after his famous meeting with François I. at what has been called the Field of the Cloth of Gold. Henry must have seen and admired the buildings being then erected in France,—the crest of François I., the salamander, is carved on some of the finest châteaux there, Blois, Chambord, &c.,—and so imported the workmen who, of course, were Roman Catholics; here they remained for the next two reigns, as under Edward VI. there was religious toleration, and Mary herself was a Papist: but when she died, in 1558, and good Queen Bess, who hated Papists as she hated pretty women, came to the throne, the workmen vanished. It became too hot for them. They went, but some of the seed they had sown remained. They had not succeeded in educating the mass of the people, it is true, but partly owing to their work here, and partly to the increasing facilities for visiting foreign parts and studying the new style there in vogue, a new school of artists was springing up in England, a school at the head of which was John Thorpe. Thorpe did not design in the Italian or French style, as these men had done. He took the Renaissance detail, it is true, but translated it into English, and really succeeded in producing a new style, — a style which, though taken from the same source as French and German work, differs essentially from both. The later day purists ridiculed it, and called it "King Jamie's Gothic"; they said it was a "bastard" style. I do not object strongly to the term, as "bastard" often means "natural." It was a natural style, and I only wish we had one half as good now. In it the work designed by the architect, or executed by the master workman and his trained men, differs very much from that erected by the local workmen alone. Both revelled in the stone mullioned windows, the sharp pitched gables, and generally picturesque and irregular outline, but while the architect introduced his Classic details, his cornices, friezes, architraves, and made his doorways semicircular or square-headed, the workman stuck to the simple hood-mould or string, and his doorways retained the old four-centred form, the only difference being that the long struck curves of the Gothic four-centred arch are in these instances not curves at all, but straight lines. All through the seventeenth and most of the eighteenth centuries we find the old Gothic feeling and traditions still evident in the work, and particularly when farthest away from London and the other large centres. These Gothic traditions which had lingered in England so long were, strange irony of fate, finally swept away, together with all other traditions, by the great Gothic revival itself. The architects then turned their attention from the principles to the details; if these were correct the building was a work of art. It seems to me there is more real Gothic feeling in one of these seventeenth-century cottages than in all the "Modern Gothic" houses of thirty or forty years ago put together.

The difference in the work executed by skilled and unskilled workmen, as mentioned before, is often to be noticed in the same building. I am speaking now of the seventeenth-century work. This is a different thing altogether from the differences to be found in the sixteenth-century work when part of the building was executed by Italian and part by English workmen. In the Free School and Almshouses at Corsham, in Wilts, for example, erected in 1668, the porch and the little pediment at the side have Classic details. The woodwork of the chapel is of the best Carolean type, as we see work of that time at big centres such as London, Oxford, &c., but the rest of the building, the windows, doorways and doors, the staircase, and other internal fittings are quite different in style, and evidently the work of the local men alone. On the outside the strings do not range or mitre with the porch cornices, and the whole porch, which is of ashlar, looks as though it were an after addition. That such was not the case, however, we may be certain. There are too many instances all over the country of a similar nature. Did the artist who designed this work send a rough sketch elevation of the main blocks, leaving it to the workmen to work out, but supplying more detailed drawings, or sending down skilled men, for what he intended to be the features of the house? We know that full-sized details as a rule were not supplied. Sir Christopher Wren apologised for offering to send them; writing to the authorities of Trinity College, Cambridge, in explanation of the plans submitted by him for the new Library, he says:—"I suppose you have good masons; however, I would willingly take a further pains to give all the mouldings in great; we are scrupulous in small matters; and, you must pardon us, the architects are as great pedants as critics or heralds." It is this pedantry in detail that has been the bane of house architecture in England. House work flourished most when the architect could in a great measure leave the details to the workmen, —compare seventeenth-century work with the buildings of the following century: the latter, though sound and good, are in comparison lifeless and uninteresting,—he could then afford to concentrate his attention on the building as a whole, on the massing and general effects, and merely supervise the detailing. Nowadays, if an architect wishes his work to look well a full-sized detail has to be supplied for everything. The English workman has utterly lost all notion of what good detail is. It is not his fault. He is naturally conservative, but what with Gothic revivals and Greek revivals, importations from Italy and wholesale cribbings from France and Germany, what little vernacular taste he ever possessed has entirely disappeared.

It is easy to tell by the work in the smaller buildings whether an architect or skilled workman had been employed in more important work in the neighbourhood. The work is more refined, and looks later in date. Take, for example, John Thorpe in Northamptonshire. There he designed Kirby, of which he records that he "layd ye firste stone in 1570." I think the most beautiful ruins in England are Rushton, with its curious triangular lodge, Lyveden New Bield, probably never finished; Holdenby, Apethorpe, &c. It is to his influence that the smaller buildings in the country are so excellent in detail. The Northamptonshire chimneys are noted. The flues are built with large stones, and there is a cavity 2 in. or 3 in. wide between each, which reaches from watertabling to underneath the architrave, frieze, and cornice, which bind them all together at the top. You find the same principle, of course, elsewhere;

* From a Paper by Mr. F. M. Simpson, read by him before the Architectural Association on the 2nd inst., as elsewhere mentioned.

but I never saw it so frequently as here. In the Lyveden Old Bield, probably a work of Thorpe's, as it belonged to Sir T. Tresham, for whom Thorpe designed the New Bield, there is a fine old staircase and fireplace. The former seems to have been a favourite. Mr. Gotch, in his book on the buildings of Sir Thomas Tresham, says:—"At Pilton, one of the seats of the Newton Treshams, four miles off, the staircase is almost the same in detail as this in the Old Bield, but not so spacious and imposing. At Brigstock Manor House, too, the staircase is very similar, but not so good; at Farming Woods the staircase, as well as many other parts, is an imitation of the work at Lyveden." There is another example, also bearing a strong resemblance, in the old Talbot Inn at Oundle. The fireplace here is also similar to one at Lyveden, and on the outside of the building are the projecting, flat, uncarved lozenges of stone, so numerous on the New Bield, and found also at Rothwell or Rowell Market-place, another work of Thorpe. The local tradition about this old inn is curious, but I am afraid as little to be believed as most local traditions, especially architectural ones. It is that not only the internal fittings, but also the very stones of which it is built, were brought from the Castle of Fotheringay when it was dismantled by order of James I., in consequence of its having been his mother's prison and place of execution. But I am afraid it is a weakness in these parts,—this attributing everything to Fotheringay. The fine old brass lectern in Oundle Church came from Fotheringay, the stalls in Tansor Church from Fotheringay, and if you meet a parson and his church possesses any one thing of interest, "It came from Fotheringay."

Of the many lessons to be learned from the study of these old houses, I think the most important is that true picturesqueness lies in simplicity. In these buildings there are no dodges, no medley of architectural "bits," no striving after effect; everything is perfectly simple, and yet I have never seen anything more delightfully picturesque in my life. Take the old almshouses at Corsham: whichever side you look at them they are simplicity itself, but I do not know which elevation is the most charming. The ornament is massed as it ought to be; over the entrance-door is one place, in the centre of the long elevation the other; there are no bands of ornamental terra cotta wandering round the building, and more dabbled about in the gables and elsewhere "to prevent the design looking commonplace." Here the chief ornament is shadow,—the cheapest and most effective ornament of all. In all old buildings, whether plain or elaborate, a certain keynote is struck at the beginning, and that is sustained throughout. The building is to be plain, there is the one rich spot which enforces that plainness; the bow window in many an old German house, for example. It is to be rich, and rich we see it, as at Little Morton Hall in Cheshire, loaded with detail, bursting, as it were, with extravagance, but the high note is kept up throughout, and the effect is harmonious. The jerry-builder delights in meaningless ornament,—it is the one thing in particular that stamps his work. One ought never to feel in looking at a building that the ornament could just as well have been left out; if one does', one may be sure it has no business there.

The picturesqueness, too, of many an old building is often owing to the fact that it was built at different times and consequently in different styles. It is to a great extent the result of accident. If affords us a proof, however (if proof be needed) that styles can be blended and blended so as to essentially produce picturesque effect, but, it requires skilful handling: there is a danger of overdoing it; the effort may be too apparent, and then the result aimed at is lost. Old buildings in the country were generally low and long, so as not to interfere with the landscape, with outbuildings clustering round them, which gave scale to the main block. No doubt partly the reason why they always harmonise so well with their surroundings is that these surroundings have grown up round them. Modern work is severely handicapped. A new house has too often to be built on a bare field: if one can persuade one's client that the first thing to do before commencing to build is to lay out the ground, plant trees, &c., it is astonishing what a difference it will make by the time the building is ready for occupation. Another reason is that the ground round old houses was laid out well, laid out so as to improve the appearance of the house. Our gardens are too often laid out by a gardener, who cares little about the house, and revels in winding walks and irregular-shaped beds, placed anyhow on a sloping lawn. It was not so the old gardens were designed, and it is astonishing how many people who admire sincerely the appearance of these old so-called "Dutch" gardens would be the last to think of following them on their own grounds. Our country-houses are often too high,—one may learn much from a farmhouse,—and although it may be cheaper to build so, instead of spreading the same accommodation over a larger area of ground, the effect is not so happy. As the first principle for a country-house is that it must not clash, but be in harmony with its surroundings,—that it must not kill the landscape, but form part of it,—so the same ought to be in town houses. But do we find it so? Do modern houses, as a rule, harmonise with one another in London? Old ones did; they might be in different materials, of different heights, and of different dates and styles, but the effect is always good. One sees instances of this in all Continental towns, and in some streets of our own, Chester, Exeter, Bristol, &c.

But we seem to have almost lost the art of erecting buildings that will harmonise one with another, except where, as at Kensington, all the houses in a street are designed by one architect. The feeling, nowadays, seems to be when one has to prepare plans for new work, "On the right is a building designed by my old friend A, on the left is the work of my intimate acquaintance B; now what can I put up between them that will utterly kill both of them?" It was not so the old men reasoned, you can see it in their work. As Mr. Clarke said in a paper a little time ago, "The buildings of old were content to rest quietly on their dignity, and to leave other buildings alone. Our façades vie with each other, shout and jeer at each other across the streets, and why?" That, I think, is a perfectly true description of much of our modern street architecture. How different is the appearance of old houses, as they lean forward, story projecting beyond story, and, as it were, bowing to one another with old-fashioned grace. I think terra cotta is in a great measure the reason for this want of harmony. Stone harmonises with brick, brick with wood and plaster, but terra cotta,—it may be only because the colour is often not quite good,—seems antagonistic to all.

The introduction of sash windows must naturally have effected a great revolution in house architecture. They were imported into England about Charles II.'s reign, and were in general use here at the commencement of the eighteenth century. In many buildings of this date, although they were used for the principal rooms, the old lead lights and casements fixed in wood mullions and jambs were still retained in the servants' portion, in the outbuildings and stables, and the contrast is pleasing. In modern work the sashes are too often built in from the inside behind a reveal formed by the brickwork. In old work this was never done; the sashes were put in from the outside either without a reveal, or, what is in similar cases done now, the reveal formed inside behind them. The full width of the frame, 4 in. or 5 in., consequently showed inside the red brick opening, and was painted white; all that shows in the modern way is a bead, and that is generally black. The panes, too, were small, and the sash-bars heavy, over 1 in. wide. The frames were brought nearly flush with the face of the brickwork; nowadays, in London, at all events, one has to set them back at least 4½ in. This being obliged to set back all woodwork these few inches is simply tantalising. Some windows brought forward flush and others set back as far as possible to get deep shadows and give an appearance of strength will give colour and variety to the design, but one is debarred from doing this by this ridiculous 4½ in. restriction. Modern windows are often made too large,—for breadth of effect externally there is nothing like wall space in your elevations,—but as they are swaddled up with curtains at the sides and the venetian blind hangs down a foot or two at the top,—generally crooked,—the light they give is none too much. The windows, too, were always kept higher from the floor than they are generally made now; 3 ft. 6 in. is a common distance from floor to glass line, modern ones are often under 2 ft., "in order to look out," and the panes are made large and the sash-bars thin, also "in order to look out," and then on cold wet days, when obliged to keep indoors, do they look out? No, they sit round the fire to try and get out of the way of the draught. I think *the* feature of these eighteenth-century houses is the doorway. What a wealth of design there is in the old ones in London alone!

I think the reason why old buildings are so successful is that they are always based on true principles. Materials are used not for show or effect, but because in each particular position they are the best for that position. The stone or brick plinth, we feel, is best under the half-timber work above, or if the entire ground-story be of the harder materials, and the upper portions projecting and overhanging, the plaster, half-timber, or tile hung-face seems the most natural construction to everybody. But half-timber work merely stuck into the gables to "relieve the monotony" of an otherwise stone-built house seems to me out of place. In old work there is no lugging in of a bit of detail because it is pretty, or rather looked pretty in its original position where it had some meaning. The construction is shown wherever it can be shown, tall walls are not carried on plate-glass windows or on arches which must fall if it were not for the iron girder behind them. As I said before, the buildings are good and picturesque, because they are simple and truthful. The fewer materials you use in an elevation as a rule the more successful will be the design. Use the materials of the county in which you are working. A man must be narrow-minded, indeed, who thinks that houses to be "artistic" must be built in certain materials. Red brick and tiles are charming in their place. Kent, Sussex, and Surrey have many examples of the mixture of these two, and red brick looks well alone, or with ornamental plaster work as we see it in the Eastern Counties.

I have said nothing about the planning of old houses, because I felt if I once began it would be difficult to know where to stop. The old plans are very useful in one way, showing how architectural effects, some grand, some picturesque, may be obtained, but they are not of much service to us as regards modern requirements. It is, of course, the most essential point in a house to be lived in that the plan must be a good one, and a good plan is as much a work of art as a fine elevation. There is one marked difference between old plans and many modern ones, and that is the size of the hall. Even in the eighteenth century, when life was not so very different from what it is now, the hall was always a feature; in a London house of 30 ft. or under frontage, half was often given up to the entrance-hall. In the country entrance and staircase halls were generally combined. Personally, I prefer the staircase by itself. Placed in the hall it destroys its use as a room, but, no doubt, very fine effects were obtained in old houses by combining the two.

I should like to say a few words before concluding about the chance of getting,—not a new, for that is impossible, but a recognised vernacular style for house work, a style that shall be not founded on the detail of any one century, but conceived in the spirit of all. The one desire now is to produce something new and original, but how can this be done? We cannot evolve something out of nothing,—that has never yet been done either in art or nature, and never will be. What does Sir Joshua Reynolds say?—"The more extensive your acquaintance is with the works of those who have excelled, the more extensive will be your powers of invention, and, what may appear still more like a paradox, the more original will be your conceptions." Let us, therefore, turn to the old work, study it carefully, and master its principles. It is no good merely making pretty sketches of it, the foot-rule must be used quite as much as the pencil. A figured dimension on your drawing will be of more value to you afterwards than a prettily sketched tree, and some measured details better than a whole group of shrubs. Turn the building inside out, grasp the feeling of the work, and find out why it looks so well; rough out the plan, a most important thing, and, not content with that, imagine a new one better suited to our requirements and present-day conditions. The principles of old work once mastered it does not matter what detail you use, so long as you take that which is most natural and best suited to the requirements. If you think Gothic detail can be made to work in satis-

factorily with plate-glass and sash windows, then use Gothic. Personally I think it cannot, but that every man must settle for himself. Earlier in my paper I referred to the rise of the Renaissance in England. I did so particularly because I think we are now in much the same position as the seventeenth-century artists were then. They had two great styles to choose from; they might have taken either, they might have stuck to the old Gothic (some conservatives did hark back to it again and again from time to time), or they might have copied the still older, but now presented in a new garb, Renaissance or Classic. But they did neither: they felt that the detail so well suited to the sunny atmosphere of Italy was here weak, and so they blended it with what was good in the Gothic, the strength and breadth necessary for our northern climate, and, as I said before, practically created a new style. Are we so far inferior to the seventeenth-century men that we cannot do as they did? Are our advantages less, our opportunities for study fewer? Could they travel about easier than we can? Had they more illustrated books? Did they possess museums superior to ours? No, no! Every advantage is on our side; every result worth having is on theirs. They created a new style: we have only, so far, played with an old one. We took a staid-looking old lady, stripped off her almost quaker dress, clothed her in new and wonderful garments, smothered her with ribbons, laces, high-heeled shoes, wonderful head-gear, and other absurdities, and called her "Queen Anne." Is Queen Anne dead? I hope so, sincerely. Little, I expect, did the men who started it, Mr. Philip Webb, Mr. Bodley, Mr. Norman Shaw,—the John Thorpe of the nineteenth century,—little, I say, did they expect into what vagaries it was going to run. It is the way always when a strong reaction sets in, people rush into eccentricities; but we have had time to cool down now. Every day and in every building we see housework improving, and the future looks bright indeed. We have only to try and work as the seventeenth-century men worked, to study not their buildings so much,—who would read a translation when he was able to understand the original?—as the work they studied; the self-same buildings the study of which enabled Thorpe, Smythson, Inigo Jones to produce their masterpieces. Our advantages, in many ways, are so superior to theirs that our work, in feeling and refinement at least, ought to excel theirs. Let us, therefore, go to the fountain head and study the work there; do not import it crudely, as is sometimes done, but side by side with this study also the English examples to see how in the old days this work was translated into English. The painter studies both from the antique and the life so that his figures may be beautiful. The old buildings are our antique,—modern requirements our life. If we can only satisfactorily blend these two I think there is every chance of our possessing what I hope we all desire, if not a new, at all events a true and recognised, vernacular style for new house work.

[Some notes of the discussion which followed will be found on another page.]

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE NEW BY-LAWS.

Under the Provisions of the Supplemental Charter, 1888.

THE Royal Institute of British Architects, at a Special General Meeting held on the 5th inst., took into consideration the *Questions of Principle* (embodied in a Confidential Paper, dated 13th February, 1888, and issued to every home member) which the Council submitted for the decision of the Fellows, before completing the draft of the new By-laws; and the same, as amended in the following ten clauses, were agreed to, that is to say:—

"1. The Council of the Royal Institute of British Architects shall be constituted as follows:—

i. The Council shall, in addition to the President, consist of (*a*) four Vice-Presidents, an Honorary Secretary, eighteen Members of Council, and two Associate-Members of Council, all to be elected by voting-papers as hereinafer provided; (*b*) the Chairman for the time being of every Branch of the Royal Institute within the United Kingdom, established as hereinafter provided, which numbers not less than fifty professional members; (*c*) the Presidents for the time being of every Society within the United Kingdom in alliance with the Royal Institute, as hereinafter provided, which numbers thirty-five members in independent practice, provided that such Presidents be Fellows of the Royal Institute; and (*d*) one Fellow or Associate of the Royal Institute nominated by the London Architectural Association. In the event of the number of such Chairmen and Presidents of allied Societies eligible to the Council exceeding nine in all, then the Chairmen and Presidents of nine of such Branches or Societies, as shall contain the largest number of members of the Royal Institute, shall alone be eligible.

2. In the election of Council, Auditors, and Standing Committees, the voting shall be taken by printed balloting lists transmissible by post or otherwise.

3. Resolutions of the Royal Institute shall be taken as follows:—

i. At every General Meeting a resolution for adjournment shall be declared to be carried if adopted by a bare majority of those having a right to vote and voting thereon.

ii. A resolution on any other question shall be declared to be carried if adopted by a majority of at least two-thirds of those having a right to vote and voting thereon.

iii. In all cases, except as herein provided, the voting shall be by show of hands.

iv. No resolution, except for adjournment, shall be carried unless there shall be present and voting at least 20 subscribing members, of whom not less than 11 shall be Fellows. Provided always that when, at any meeting of the Royal Institute, a resolution shall have been carried as aforesaid by show of hands, for the adoption of a proposed new By-law, or the alteration or repeal of any existing one, or on any proposal affecting the management of the Royal Institute, or professional practice and charges, such resolution shall be suspended on a demand being made *either previously in writing signed by twelve Fellows, or* at the meeting by any six Fellows, that a division thereon shall be taken by voting papers. Three scrutineers shall then be appointed by the meeting, and the meeting shall be adjourned for a period of not less than 14 or more than 28 days. A voting paper containing the proposal submitted, together with an official report of the discussion thereon, shall be printed and sent to all members having a right to vote. Each voting paper shall be filled up and signed by the member, and returned to the Secretary at least three days before the said adjourned meeting. The voting papers shall be handed by the Secretary to the scrutineers, of whom two shall be a quorum; they shall then count the votes and announce the result at the said adjourned meeting. The said resolution shall be declared to be adopted if supported by a majority of at least two-thirds of the voting papers so returned, otherwise it shall be declared to be negatived.

4. The Council shall define the conditions of competitions for and shall award the several prizes, medals, &c.

5. An Examination shall be instituted to entitle *bonâ fide* professional students to the designation of 'Students of the R.I.B.A.'

6. A non-subscribing class of 'Retired Fellows' shall be instituted for Fellows who have been members of the Royal Institute thirty years, and have retired from practice; and that alternatively such retired Fellows may be transferred to the class of Hon. Associates without payment of an entrance contribution.

7. While retaining to the Council the power of expulsion, power shall be given to suspend members in certain cases.

8. The grounds for suspension or expulsion shall be—

'That any member contravening the Declaration signed by him, or guilty of any conduct which in the opinion of the Council shall be derogatory to his professional character, shall be liable to suspension or expulsion in manner provided;' and the following forms of Declaration shall be substituted for those now in force.

A. To be signed by a Fellow.

I, the undersigned, ..., being elected a Fellow of the Royal Institute of British Architects, do hereby declare that I have attained the age of 30 years, and have been engaged as principal for at least seven successive years in the practice of architecture; and, in consideration of my having been so elected, I promise and agree that I will not accept any trade or other discounts, or illicit or surreptitious commissions or allowances, in connexion with any works the execution of which I may be engaged to superintend; that, having read the Charters of Incorporation and By-laws of the said Royal Institute, I will be governed and bound thereby, and by any alteration thereof which may hereafter be made, until I shall have ceased to be a Fellow; and that, by every lawful means in my power, I will advance the interests and objects of the Royal Institute.

Witness my hand, this day of 18
Signed by the above-named in the presence of .

B. To be signed by an Associate.

I, the undersigned, ..., being elected an Associate of the Royal Institute of British Architects, do hereby declare that I am engaged in the study [or practice] of architecture, and have attained the age of 21 years; and in consideration of my having been so elected, I promise and agree that I will not accept any trade or other discounts, or illicit or surreptitious commissions or allowances, in connexion with any works the execution of which I may be engaged to superintend; that, having read the Charters of Incorporation and By-laws of the said Royal Institute, I will be governed and bound thereby, and by any alteration thereof which may hereafter be made, until I shall have ceased to be an Associate; and that, by every lawful means in my power, I will advance the interests and objects of the Royal Institute.

Witness my hand, this day of 18
Signed by the above-named in the presence of .

C. To be signed by an Honorary Associate.

I, the undersigned, ..., being elected an Honorary Associate of the Royal Institute of British Architects, do hereby declare that I am not following the profession of an architect, but am interested in the study of Architecture; and in consideration of my having been so elected, I promise and agree to be governed and bound by the Charters of Incorporation and By-laws of the said Royal Institute, and by any alteration thereof which may hereafter be made, until I shall have ceased to be an Honorary Associate; and that, by every lawful means in my power, I will advance the interests and objects of the Royal Institute.

Witness my hand this day of 18 .
Signed by the above-named
In the presence of

9. Branches may be established by the Royal Institute according to regulations to be made from time to time by the Council.

10. The following By-laws, in accordance with the Report of the Special Federation Committee, shall be adopted for the alliance, with the Royal Institute of British Architects, of Architectural Societies having kindred aims to those of the Royal Institute:—

i. Any non-Metropolitan Architectural Society in the United Kingdom, in India, or in any Colony or Dependency of the United Kingdom, consisting in whole or in part of professional members, may, subject to such regulations, limitations, and restrictions, as may from time to time be prescribed by resolution of the Royal Institute, be allied with the Royal Institute.

ii. The constitutional rules or By-laws of Allied Societies shall be subject to the approval of the Council of the Royal Institute, and no addition thereto or variation thereof shall be made without previous notice to and approval by the Council.

iii. The Royal Institute shall not be responsible for any acts, expenses, or other liabilities, which may be done or incurred by any Allied Society.

iv. If any Society in alliance with the Royal Institute desire to withdraw therefrom, it shall be at liberty to do so after three months' notice, and the Royal Institute may in like manner determine the alliance.

v. The Royal Institute shall contribute to every Allied Society not more than one-fourth of the annual subscription paid to the Royal Institute by each member thereof who is also a member of such Allied Society; but in no event shall such contribution apply in the case of any one member to more than one Allied Society."

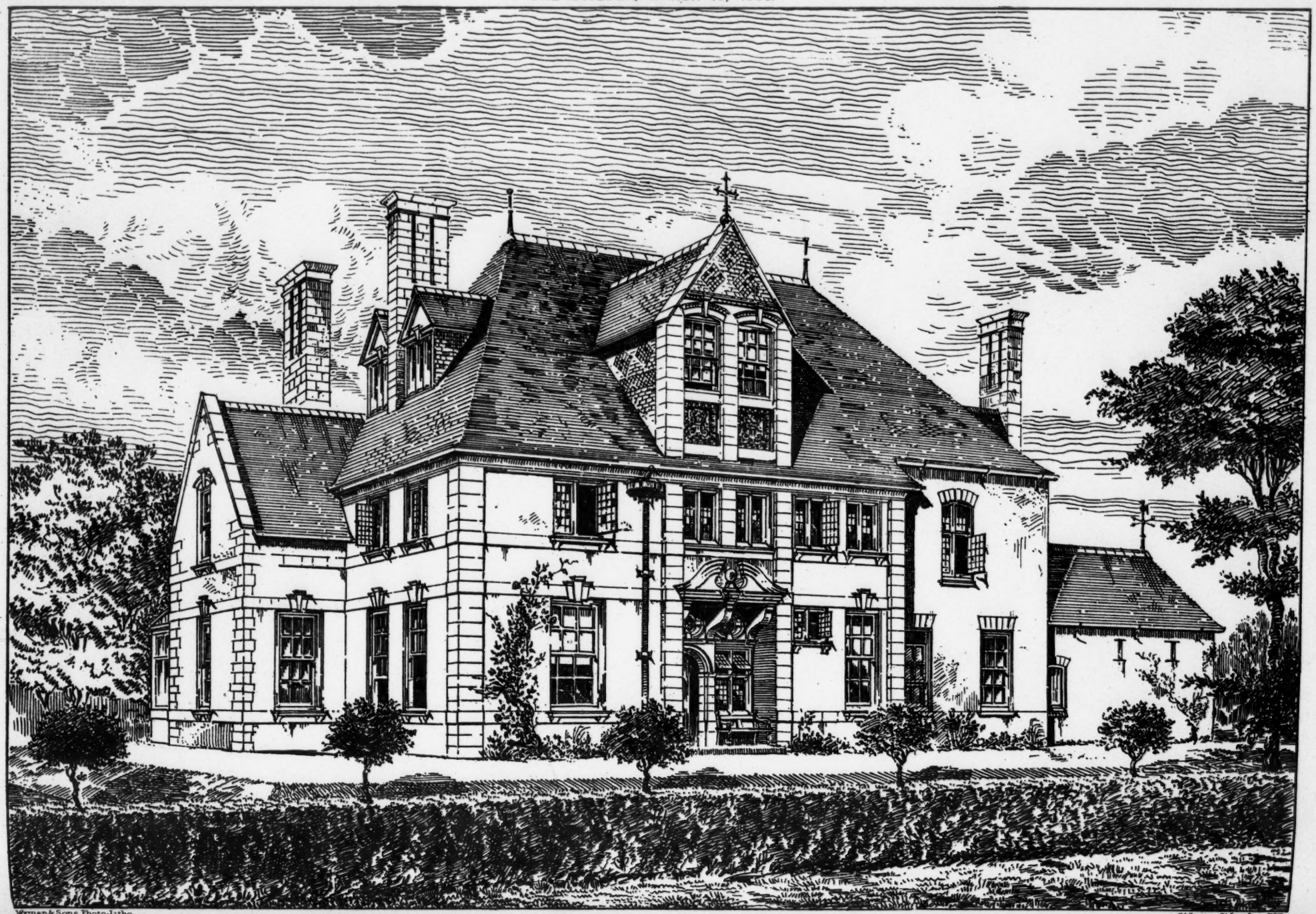
COMPETITIONS.

Holy Trinity Church, Reading.—A limited number of architects were invited to compete for the proposed restoration of Holy Trinity Church, Reading. The committee appointed met on Monday, and, after an examination of the drawings sent in, selected the design submitted by Mr. George W. Webb, A.R.I.B.A., 14, Friar-street, Reading. The proposed cost is stated to be about 2,000*l.*

National Schools, Colchester. — We are informed that in an open competition, to which twenty-seven architects responded, for the erection of schools to accommodate about 300 children, the design sent by Mr. F. Whitmore, of Chelmsford, was selected by the committee, and he has been instructed to carry out the work.

St. Andrew's Schools, Guernsey.—In this competition for State Schools thirty-eight sets of designs were submitted, and those sent by Mr. F. Whitmore, of Chelmsford, were finally selected, and the works will be proceeded with at once.

The Hospital Chapel at Ilford, which is dedicated to SS. Mary and Thomas of Canterbury, is being restored and enlarged under the superintendence of Mr. J. M. Brooks, architect. This chapel was founded by Adeliza, Abbess of Barking, in the reign of Stephen. The chapel dates from the fifteenth century, and is a long and narrow structure, 100 ft. by 20 ft. The estate is vested in the Marquis of Salisbury, who is master of the semi-ecclesiastical establishment, and who pays the yearly stipends.



Wyman & Sons, Photo-Litho. 74 Queen St London, W.C.

DESIGN FOR BRYNMAWR VICARAGE.——Mr. J. D. Sedding, F.R.I.B.A., Architect.

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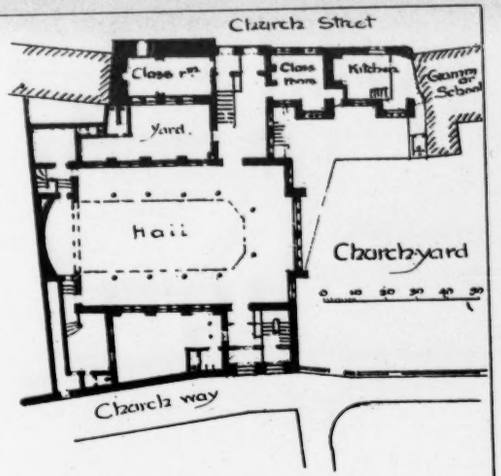


PHOTO-LITHO. SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON.

"THE PRIORY" SUNDAY SCHOOL AND HALL, WELLINGBOROUGH.—MESSRS. TALBOT BROWN & FISHER, ARCHITECTS.

"THE PRIORY" SUNDAY SCHOOL AND HALL, WELLINGBOROUGH.—Messrs. Talbot Brown & Fisher, Architects.

Entrance Doorway

to the Piccolomini Library in the Duomo, Siena

by Lorenzo di Mariano

Materials { generally — white marble
bases and caps — Roman giallo marble
gates — bronze

NB The Crescent is the badge of the Piccolomini family

Detail of upper frieze

Above this cornice, the wall is plain and treated with plaster and fringes
capitals in giallo marble also the astragal carried through
Cross on shield painted dark blue, crescents gold, cross above gold, cardinals hat & tassels vermillion
bases in giallo marble

PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C.

AN ITALIAN DOORWAY.—Drawn by Mr. George J. Oakeshott.

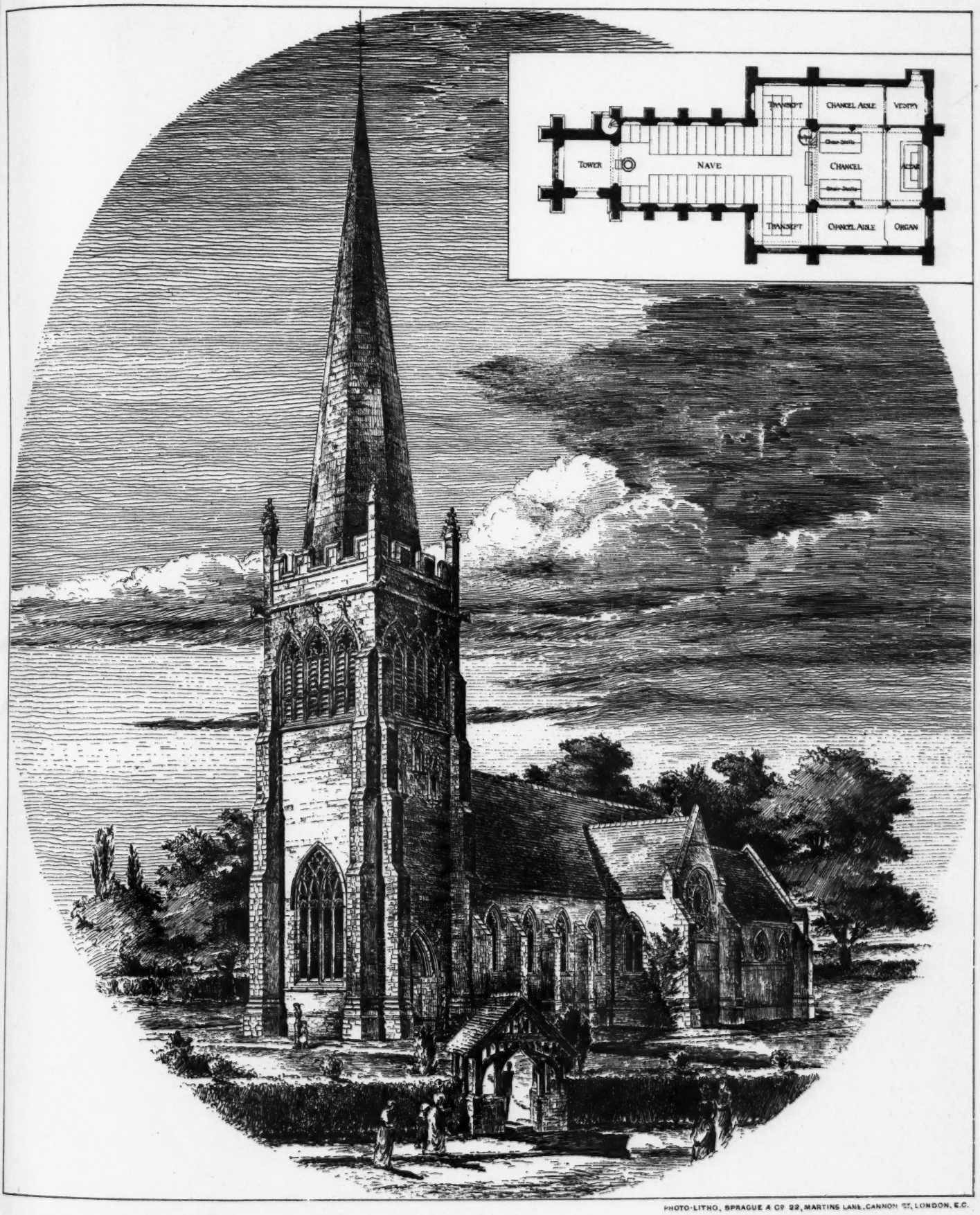
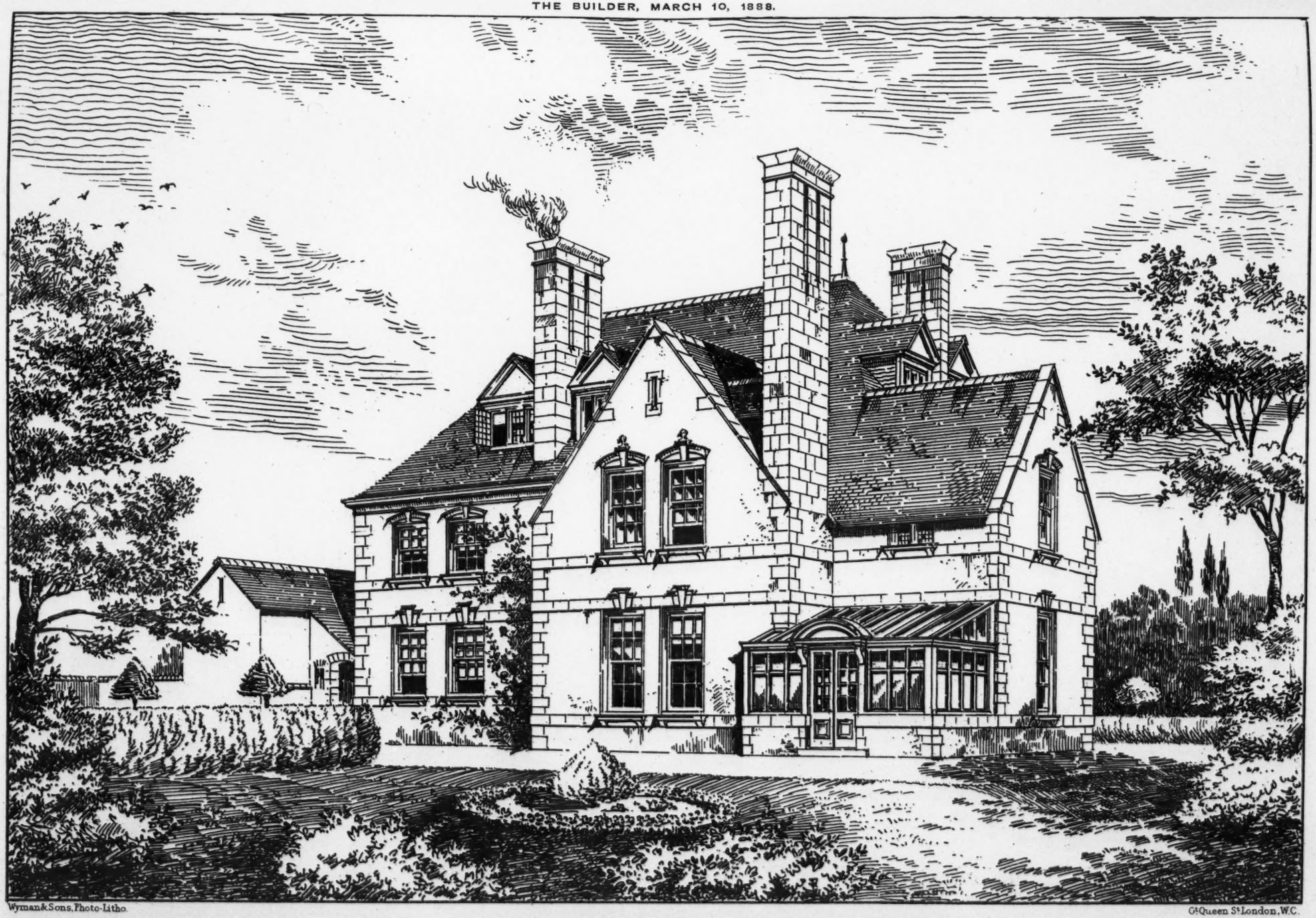


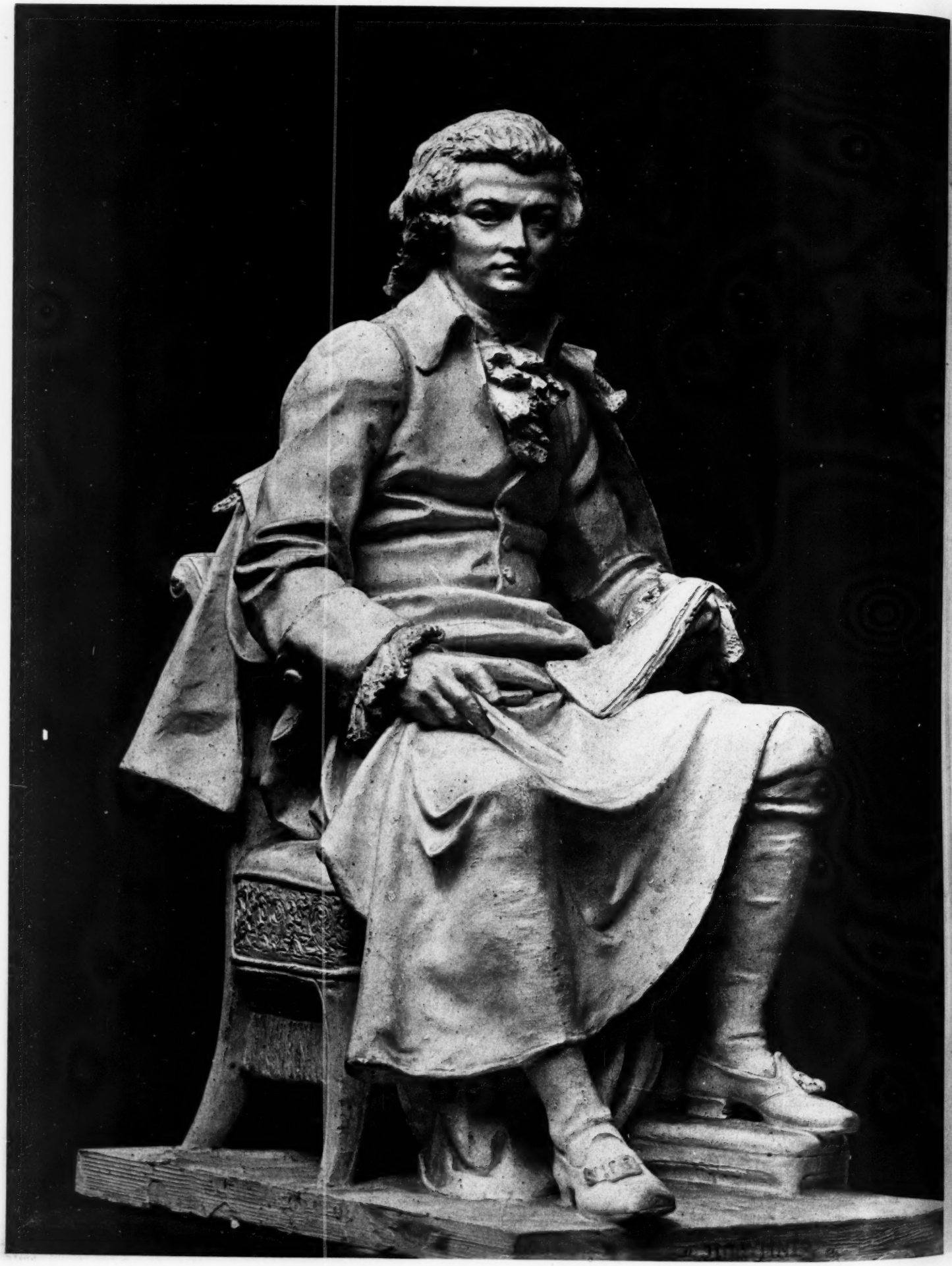
PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C.

RIBBLETON CHURCH, NEAR PRESTON, LANCASHIRE.—Mr. R. Knill Freeman, F.R.I.B.A., Architect.



Wyman & Sons, Photo-Litho. Gt Queen St London, W.C.

DESIGN FOR BRYNMAWR VICARAGE.—Mr. J. D. Sedding, F.R.I.B.A., Architect.



The Phototype Co., 303, Strand, London.

THE PRINCIPAL FIGURE FROM THE MOZART MONUMENT AT VIENNA.

HERR A. WAGNER, SCULPTOR.

The Phototype Co., 303. Strand, London.

THE MOZART MONUMENT, VIENNA. HERR A. WAGNER, SCULPTOR.

DRAWINGS FOR THE ROYAL ACADEMY.

WE may draw the attention of those who intend to send us drawings to be photographed before delivery at the Royal Academy, that the Academy, for reasons best known to themselves, have fixed the delivery days for pictures and drawings on Friday, the 30th (Good Friday), the Saturday following, and the Monday following, the latter being a Bank Holiday. It will, therefore, probably be impossible to get anything photographed at the lithographers' except previous to the Friday.

Illustrations.

THE MOZART MONUMENT FOR VIENNA.

WE give an illustration this week of the new monument to be erected to Mozart at Vienna, from the design of Herr A. Wagner, sculptor,—a design which was selected as the best in a competition. The illustrations are from photographs furnished at our request by the artist. The sphinx on the left of the general composition is probably introduced as having a kind of symbolical reference to the mystical character of the "Zauberflöte" Opera, which in Germany has always been regarded as a typically representative work of its author; more so than in this country, where "Don Giovanni" is usually regarded as his central dramatic work.

The principal figure shows a good likeness to the accepted portraits of the composer, besides being happily expressive of the genial and joyous temperament to which his works and his biographical record equally testify.

DOORWAY, PICCOLOMINI LIBRARY, SIENA.

THIS illustration is reproduced, by permission, from Mr. Oakeshott's book on "Detail and Ornament of the Italian Renaissance." For some further remarks in regard to it, see the third article in the present issue.

THE "PRIORY" SUNDAY SCHOOLS AND HALL, WELLINGBOROUGH.

THE Priory is an old residence, converted (for the purpose of a Sunday school) into classrooms, &c., with caretaker's residence at one end. The hall is to be used on Sundays in connexion with the school, but at other times will be available for entertainments, &c., with seating accommodation for about 1,000 people.

The work has been carried out by Mr. George Henson, contractor, Wellingborough, under the superintendence of the architects, Messrs. Talbot-Brown & Fisher.

CHURCH OF ST. MARY MAGDALENE, RIBBLETON, NEAR PRESTON.

THIS church consists of nave, tower, transept, chancel, and chancel aisles, and will seat about 300 people.

It is faced externally with Longridge stone for dressings, &c., and with red brick and stone for interior. It will be covered internally with a wagon boarded ceiling.

The foundations have already been completed.

The architect is Mr. R. Knill Freeman, F.R.I.B.A., of Bolton and Manchester.

BRYNMAWR VICARAGE.

THE accompanying drawings show the original design prepared for this work, but in execution the plans have been modified to a certain extent. The new vicarage is now nearly completed. The architect is Mr. J. D. Sedding; the builder is Mr. Jenkins, of Brynmawr.

George Neal & Co. (Limited).—The directors of George Neal & Co. (Limited) have declared and paid an *interim* dividend at the rate of 6 per cent. per annum for the first half-year ending Dec. 31, 1887, the balance of profits being carried to reserve. We are informed that the net profits, after payment of all expenses for the first six months' working, were equal to 12½ per cent. on the issued capital.

EFFECT OF SEA-WATER ON PORTLAND CEMENT.

SOCIETY OF ENGINEERS.

AT a meeting of the Society of Engineers, held at Westminster Town-hall on Monday evening, March 5th, Mr. A. T. Walmisley, President, in the chair, a paper was read on "The Effect of Sea-water on Portland Cement," by Henry Faija, M.Inst. C.E.

The paper referred to the failure of certain concrete work at Aberdeen Graving Dock, and the author first alluded to the several published reports ascribing the failure to the chemical action of the sea-water on the cement. After pointing out that Portland cement has been used in marine works for forty years, and that until now any failures that may have occurred have never been traced or ascribed to the chemical action of the sea on the cement, the author gave a general description of the work carried out at Aberdeen, embodying extracts from the reports of Mr. Smith, Professor Brazier, and Mr. Messent, descriptive of the manner in which the cement was used, the specification to which it was supplied, and the argument on which their theory is based, which is briefly that the magnesia precipitated from the sea-water enters into and becomes a compound part of the cement, thus destroying it. The presence of magnesia in cement was then considered, and the reason explained why it is deleterious when in excess, but the magnesia as precipitated from the sea-water was shown to be in a very different condition to magnesia when it is incorporated in a cement in the course of manufacture. The result of a large number of experiments, comparing the behaviour of cement when gauged in sea-water and when gauged in fresh water, the analysis of the cements before and after gauging, and of the scale on the surface, together with the scum and sediments in the waters in which the cement had been placed, were given.

The specification and the analysis of the cement used at Aberdeen were then considered, and it was pointed out that, though such a specification was not antagonistic to the production of a good cement, there was nothing in it which ensured a good and sound cement being delivered, and it was suggested that one or other of the methods now known for determining the soundness of a cement should in all cases be used, the author being of opinion that, given that a cement is well ground and is proved sound, it will, in nearly all cases, be strong enough for any purpose for which it is likely to be used. The concrete at Aberdeen was used in what is called a "plastic" form,—*i.e.*, it was allowed to partially set, and was then broken up and placed in position. The danger of using cement in this manner was shown, and the results of several experiments given, proving that under certain conditions the cement never resets.

The conclusions arrived at were that seawater has no deleterious chemical action on a sound and properly-used Portland cement, and that the failures at Aberdeen must be attributed to some other cause; either to an inherently bad cement having been used, or to the injudicious use of it in a plastic form.

ARCHITECTURAL ASSOCIATION.

THE tenth ordinary meeting of this Association for the present session was held on the 2nd inst., in the meeting-room of the Royal Institute of British Architects, Mr. John Slater, B.A. (President), in the chair.

Votes of thanks were passed to Messrs. K. D. Young and H. Hall, the architects of the Great Northern Hospital, Holloway-road, for allowing the members to visit the building.

Mr. F. R. Farrow (Hon. Sec.) announced that the next visit would be on the 10th inst., to St. Ermin's Mansions, Caxton-street, Westminster,—Mr. Edwin T. Hall, F.R.I.B.A., architect. A visit would also be made on the 17th inst. to the Hall of the Cutlers' Company,—Mr. Taylor Smith, architect.

Mr. Hooper drew attention to an interesting collection of French architectural photographs to be seen at Mansell's, in Oxford-street. These had been taken for the use of the students at the École des Beaux Arts, and were arranged chronologically.

Mr. F. M. Simpson then read a paper on "Old House Work," of which we print the greater part on previous pages.

In the discussion which followed,

Mr. H. D. Appleton said that the paper had touched upon many points of peculiar interest to those who had taken part in the Association's excursions, and thus visited several of the houses mentioned in the paper. He believed a great deal was to be learned by the younger men if they would only study the works of the leading architects of the present day, and he did not see why sketching from modern buildings should not be more encouraged (applause). He had pleasure in moving a vote of thanks to Mr. Simpson.

Mr. A. B. Mitchell seconded the motion. Mr. Simpson, he said, had divided his paper into two parts, the first part being historical and the second part more practical. Without desiring that the second part had been shortened, he wished that more had been said about the historical development of plan. Mr. Simpson had referred to the Jews' House at Lincoln, perhaps as old an example of a house as was to be met with, and also to a little house in Suffolk as a thirteenth-century example, but then he had jumped right away to the middle of the fifteenth century. That seemed a pity because, although he (the speaker) was not unaware of the existence of some few fourteenth-century examples, it would have been interesting to have noted the development which had taken place. The plan of the Norman house, and perhaps of that of the thirteenth century, consisted largely of two rooms, and it would have been of interest to have heard how the accommodation increased. He believed it was largely owing to the increased wealth and refinement manifested in the habits and ways of life. For instance, in the earliest examples, the hall was used both day and night as the one abode for the whole family, including the servants also. That was somewhat enlarged by the addition of the Solar, or small sleeping-room of the women, at the upper end of the hall, and afterwards another room was added, to which the master of the house was supposed to retire. He did not know any examples of such buildings of the fourteenth century, but doubtless there were such, with four or five rooms, being a sort of intermediate style between the hall and the later forms, which contained many apartments. Mr. Simpson had referred to the influence that John Thorpe had had in the matter of Renaissance detail, but there was a man of equal importance almost a century earlier, viz., John of Padua, who came over in 1544, and who was appointed by Henry VIII. as the "Devisor" of His Majesty's buildings. Another matter he would like to have heard touched upon was the influence which increasing prosperity and peace had upon the architecture of the houses. Oxborough Hall, in Norfolk, an old brick house built in 1480, was an example of the latest fortified manor-house, its chief windows looking into the courtyard and its turrets and outer walls having little more than loopholes. Twenty years later Knole Gate House was built with a machicolated parapet similar to that of Oxborough, but shortly afterwards an oriel was built out under the machicolations, showing they were no longer of any use. Twenty years later again Layer Marney was built with machicolations for absolutely no purpose whatever, as they had no openings behind and were merely architectural features. Layer Marney had also external windows from top to bottom, and that showed how the gradual influence of peaceful and prosperous times had influenced the design of the house. Mr. Simpson had said that the architect nowadays to produce good work must supply full-size details; doubtless this would be so if the details were good, otherwise it did not follow.

Mr. H. W. Pratt remarked that the height of the room had much to do with the length of the modern window. In the old houses the rooms were not so lofty, and it was the low broad window to be seen in the old examples that was so charming. The doors also had a wider opening, and were consequently more effective. Mr. Simpson, in pleading for a vernacular style, had urged the use of local materials, but it was often unwise to use them merely for the sake of getting good effect. There was no doubt that the fact of a house being weather-worn and charming in itself as a piece of colour, was sufficient to make what was really a bald and common thing pretty. So in course of time some of the houses built by modern architects would be quite as interesting as any of the old examples (applause). As to the question of houses harmonising with each other, it was not for architects to attempt

to harmonise their buildings with those surrounding them, which would almost always result in failure. Indeed, in some cases they might have to descend to a much lower level than they desired. He could not quite agree as to the remarks about terra-cotta not being harmonious. Great improvement had taken place in the colour of terra cotta within the last few years, which made it go well with brick.

Mr. Francis Hooper, in thanking the author for his paper, expressed entire accord with Mr. Simpson's plea for more studied simplicity of design in modern building, such as gives charm to much that is old. It was often true in architecture as in other things, that "Beauty unadorned is adorned the most." Breadth of wall-surface had been advocated, but this must not be secured at the expense of window space. The climate of England subjecting us frequently to long, dull seasons, our window openings should be of ample extent, and might be so treated as to add to, rather than detract from, the desired breadth of effect. Considerable stress has been laid on the Italian influence on "old house work," but much of interest in the Eastern Counties, especially on the Norfolk coast around King's Lynn, was due to Flemish settlers.

Mr. W. Randolph, in referring to a vernacular treatment, said he thought it would be well if the workman were trained so as to have a good stock of mouldings, and then the architect need not concern himself with that matter. In these days, when there were conflicting ideas upon every subject, it would be difficult to arrive at one vernacular style of architecture.

Mr. Leonard Stokes said that now-a-days architects designed their doors and windows on separate sheets of paper, without properly realising the whole effect. There was no reason why they might not have simplicity and excellence combined; and if they would only study simplicity so as to give it an effective and picturesque appearance, they would have accomplished something. He did not believe Mr. Simpson meant to imply that all modern work was bad, as he could not fail to know that many of the modern men did as good, if not better, work than the old ones.

Mr. Farrow thought that the work of John of Padua was an admirable example of the difference between the early English Renaissance, and what was generally understood as Elizabethan. The exterior of Longleat might be imagined to have been transported from the banks of the Loire, for in regard to detail it was essentially *François Premier*. The name of Theodore Havenius, of Cleves, also deserved to be mentioned, he having been a worker on the same lines, and having demonstrated the essentially Continental features of the first period of English Renaissance.

The Chairman said that the paper was full of suggestions. The two chief distinctions in old houses were between those in the country and those in the towns. Mr. Simpson had referred to Continental houses, most of which were in the towns, whereas in England the majority, and most certainly the most interesting of the examples of old work were to be found in the country, or in small country places. With regard to the harmonising of town houses, they could not help feeling nowadays that if they attempted to do that they might be accused of copying, and, of course, it would not do to plagiarise to any great extent. With respect to country-houses in England, every architectural student and those who had passed that stage had opportunities now of seeing far more of the old work than people formerly had, in consequence of the invention of the bicycle. Those who joined the Cycling Club which had been referred to in "*A. A. Notes*," would, therefore, have opportunities of seeing a great many admirable specimens of interesting work. It might be almost taken for granted that the old coach routes would show some of the best examples. Many out-of-the-way places, which had now dwindled into insignificance, used to be of some importance because they were on the lines along which the coaches went, and in those old towns, especially in Hampshire, would be found excellent and charming specimens of the old English vernacular architecture. One of the most interesting of the Renaissance churches in the provinces was that of St. John-the-Baptist, Leeds, which contained a fine Jacobean screen. Little had been said as to the materials used for old houses. Mr. Simpson had advised them to go in for local materials. He (the speaker) might mention that he was about to build a house of a material he had never used before, viz., plaster and stone dash, which was essentially a local material in many parts of Essex, and people who lived in such houses invariably affirmed that they were much warmer than brick-built houses. The worst of using local materials was that the bricks made in many parts of the country were of an abominable colour. Mr. Mitchell had touched upon a very interesting point when he referred to the development of the house from the thirteenth century downwards. He had also stated that nothing had been said in the paper about any houses existing in the fourteenth century. A great many of those houses, however, had been so altered as to give little idea of their original form. Mr. Mitchell was right in stating that the feeling of greater security caused a difference in the structure and elevation of the houses. But it must not be forgotten that that feeling would also materially affect the plan of the house, because when people were in fear of being attacked from all quarters they would naturally keep the house small and compact. As to big or small windows, the great matter was to make the house comfortable for the dwellers in it, and to keep the ornamentation directly subservient to the construction. That was the spirit with which architects ought to do their work.

The vote of thanks was then put, and carried by acclamation.

Mr. Simpson, in replying, remarked that he did not mean to convey the idea that no good buildings were erected now, for there was no doubt that some of the finest buildings ever erected were buildings constructed at the present time. At the same time, he considered the majority of the buildings erected nowadays were bad. He believed that sketching from modern buildings was, up to a certain point, a very good thing, in the same way as the old men used to copy Thorpe's details. Any one who took an interest in the plans of old houses would find in Parker's first volume plans from the earliest date down to the end of the fifteenth century. Longleat, he believed, was more Elizabethan than Renaissance in character, and was quite different from Layer Marney and other buildings mentioned. Objection had been taken to the admixture of different styles. No doubt it was a difficult thing to carry out, but in many instances it had been done most successfully. He did not mean to convey that he disliked all terra cotta, for some of it was excellent in character, and where it was really good it harmonised well, as for example in the South Kensington Museum buildings. In all towns along the coast foreign influence was to be seen. At Poole, in Dorsetshire, were to be found windows of a decidedly foreign type, and such would be observed in all seaside towns.

ACOUSTIC MATERIAL.

SIR,—I am glad Mr. White continues [p. 159, *ante*] the discussion on this subject. What is to be said is surely not exhausted.

Referring to his letter, there is surely no doubt whatever that volume of sound is greatest in a room of solid construction, as witness the common experience of tunnels or caves; also that more sound is reflected from a solid floor than from a hollow one, whether of wood or other material. The vibration of a substance means the absorption of sound. The objection to the use of a dense material is the extremely harsh and disagreeable quality of the sound, and the confusion caused by the rebound of the sound waves. If any one wishes to test this, let him take up a position while singing is going on next one of the granite columns at All Saints' Church, Margaret-street.

Lachez, in his "Acoustique et Optique des Théâtres," the standard work on the subject, claims that a theatre should be solidly constructed to prevent any vibration, but that the material should not be dense to reflect, but such as to kill the sound striking on it, for which purpose it should in places be protected by draperies.

There is no question but that judiciously selected wood, by its vibrations, gives increased and improved tone to the voice, but for that very reason, while it may be important that the stage or platform shall be of wood, it is the more important that the rest of the room shall be of non-vibrating and sound-killing material. In fact, the voice and the stage or platform represent the violin. The fallacy has been in taking the whole auditorium as the violin. I think it is extremely doubtful if, supposing one could creep inside a bass viol, one would find the sound at all agreeable.

The old plan was to construct the place for the orchestra as one large carefully-framed box suspended in as few places as possible; the result of this might be good, as the whole was one homogeneous piece, but the moment one comes to matchboard fastened to cross joists or battens the whole conditions are upset. One has two factors whose vibrations are tearing at each other in violent opposition. As the Institute *Journal* has a limited circulation, perhaps, I may repeat what I said there:—

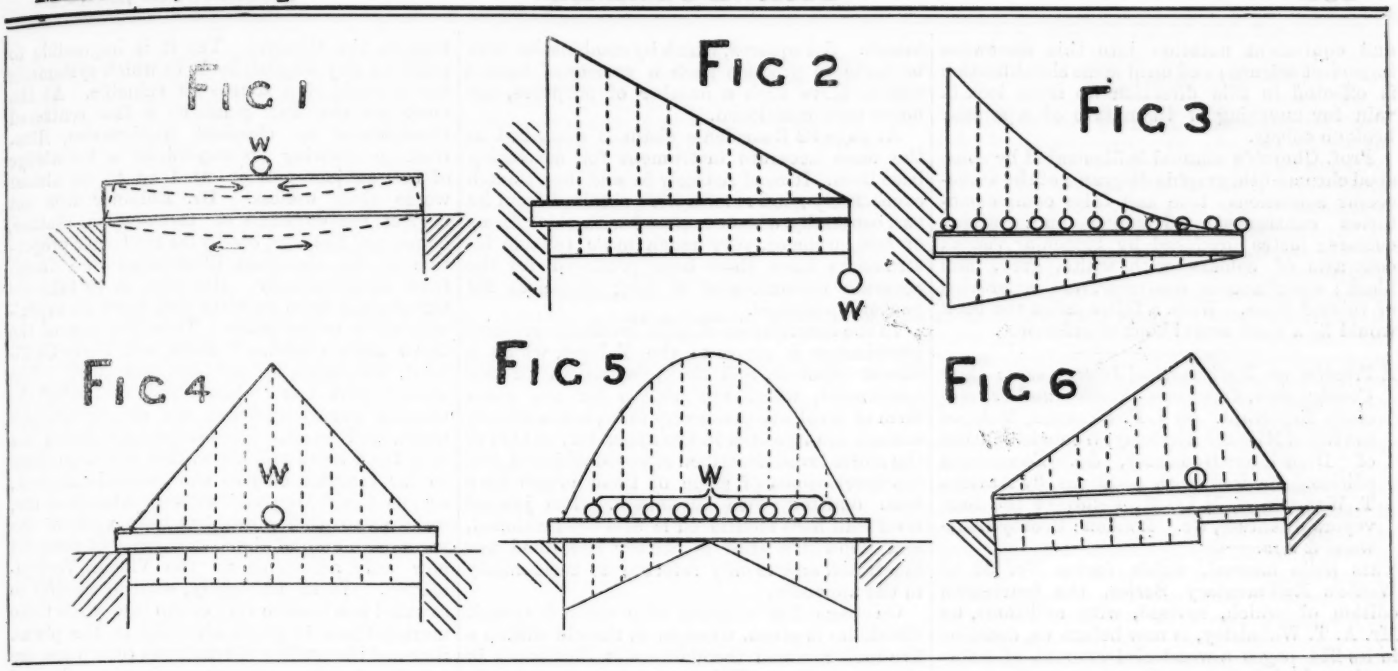
"One must first of all distinguish between a house for music and one for acting. In the former case a certain amount of resonance is required and helps greatly. In the latter it is important that the sound should be delivered pure and distinct as it leaves the actor's mouth. It must not even be mellowed or improved by resonance, as it often has to represent the tones of a villain or an eccentric. Lachez, therefore, claims that the sound shall be killed on the ceilings, box-fronts, backs, &c. Wood boards are accordingly as bad in one way as in another way stone or hard walls, which reflect the sound in an unpleasant manner. Plaster seems the suitable substance for this purpose, supplemented by draperies where required. I am myself inclined to vote for a certain amount of resonance, as nothing can be more disagreeable than to speak or act in a room destitute of it; but it seems to me essential that the resonant substance should be homogeneous, and to be relied on and free from excessive vibration. If it were possible to panel your walls, ceilings, &c., with carefully-selected wood of uniform quality put together like cabinet-work and carefully oiled and varnished (as has been lately pointed out, violins owe an important part of their tone to the varnish), if this were possible, I should believe wood might be a suitable lining if fixed to solid walls that would not allow any excessive vibration; but when we get floorboards nailed to wooden joists or matchboards with varying grains nailed to wooden battens often in stud partitions and covered with colour wash or paper, I cannot see that we can possibly expect any beauty of tone, but, on the contrary, if any tone were imparted it would be of a most confused and varying character. Moreover, we get such a vibration as most mischievously to interfere with the purity of the sound. I believe that the imperfection of sound in the galleries and under them is owing enormously to the use of matchboard in those positions, and if wood is to be used at all I should recommend it in short lengths, contrary to the received opinion that it should be in as long lengths as possible."

Nobody who has carefully studied the sound in the galleries and under the ceilings of our theatres can, I think, have any doubt as to the absolutely pernicious effect of the matchboarding in confusing the clearness of sound.

Reverting to what Mr. White says, I should advocate placing the organ on a wooden platform, if it were possible to construct that as one solid thick board, supported at the ends only. I think the joist-and-board arrangement most objectionable. Far better than that would be a uniform floor of concrete over a void. It is surely beyond dispute that although the existence of such a void does not increase the actual volume of sound, it materially increases what is called its tone. Concrete is, as is well known, from one of the principal difficulties attending its use, its expansion, and contraction, an extremely elastic material, entirely different in that respect from stone, and it, therefore, seems to me particularly suited to this use. It is also the only material that can be used in large uniform slabs of a thickness not too great to allow of vibration. I have used the word "vibration" occasionally in places where that of "resonance" is usually employed in distinction. I confess I am unable to see that resonance is anything but a form of vibration in the right place.

RALPH NEVILL, F.S.A.

SIR,—I hope you will allow me to add a few lines to what I have already said, to explain that the practical testimony of a leading singer, quoted to me, "No one can sing off stone" is somewhat beside the mark. It is true that I have spoken of the great resonance of Yorkshire stone paving, but I have not advocated, or ever employed, the use of stone for such purpose. Even the chilling effect



produced by the stone upon the feet might disturb the nervous system sufficiently to affect the voice. But my contention is that, both theoretically and practically, a floor for clear resonance and for distinct hearing should be solid, not hollow beneath.

Moreover, I cannot admit that the relation of the orchestra construction to the band is at all correctly analogous to that of the body of the violin to the strings. The notes depend upon the strings, but the tone is dependent on the wood. Whether it be well heard in the distance depends upon the proportions of the room and upon its acoustic properties, of which the construction of the orchestra forms a very significant feature. In a band the various notes and tones are produced by the respective instruments. Whether or not the band will be well heard depends again on the proportions and acoustic properties of the room. Possibly a fine and delicate instrument may be aided by the resonance of a material not requiring great force for its exercise. But for delicate hearing we would wish to avoid anything approaching to the sound of a drum, whether on a large or on a small scale, as produced by a hollow space confined.

The rebound of a wooden ball from a plank of wood is infinitely smaller than that of a ball of ivory from a slab of ivory. In the one case only a moderate amount of force can be used without a permanent depression of surface destroying its elastic power; in the other, nearly any amount of force may be used, producing only an instantaneous depression of surface, so slight as to be almost immeasurable. And the pace of sound reaching a reflective surface must necessarily be greater far than any pace which can be acquired by a solid substance, so that for "re-enforcement" of sound we really require the greater power of elastic force, and this would be greater far in stone or strong cement than in wood.

I hope that we may arrive at the true solution of the question, for it is one of very material consequence in the construction of all places built for purposes of hearing.

WILLIAM WHITE, F.S.A.

*** We give Mr. White's letter, but we utterly dissent both from his reasoning and his conclusions.

ARCHITECTS AND SCHOOL BOARDS.

SIR,—I am glad to see that some one has thought my previous letter [p. 89, *ante*] under the above heading to be worth discussing. The case "F.R.I.B.A." [p. 161, *ante*] no doubt refers to is that of "Scott *v.* The Clifton School Board," in which it was laid down that the Architect in that case was an *Officer of the Board*, and where an Architect is appointed *to the Board* there appears to be no doubt that the entry on the minutes is sufficient; but there are cases in which an architect is appointed *for the New Schools*. Is he then an officer of the Board? If not, then his appointment (I am advised) must be under seal. The question appears to narrow itself into,—What constitutes an Officer of a School Board?

I am assured by a friend (architect) that he has acted for over one hundred School Boards and never had an appointment under seal; and only this last week I have received appointment from another School Board as architect for the new schools, and on my asking the clerk (a solicitor) if it was not necessary for my appointment to be under seal, he denied it, and I think was inclined to laugh at me. I hope this matter will be further ventilated.

INVICTA.

"Hydraulics for Architects" is the subject of a paper to be read by Prof. Unwin at the next meeting of the Architectural Association.

The Student's Column.

IRON.

X.—STRESSES IN GIRDERS.

IRON as a material for carrying purposes is for various reasons dealt with in a very different manner to timber. In the form of cast iron it can be easily run to any continuous shape, and in wrought-iron within certain limits; the usual sections are obtained by rolling, and larger sections by building up. Owing to these circumstances, sections best adapted theoretically to the purposes for which they are required, prove the most economical, and are most often adopted. In girders subject to cross strain, the farther the metal can be removed from the neutral axis of the section the greater will be the leverage, and the more effective the section. This fact at once suggests to us the **I** section as the best form to adopt, which is the form in general use.

The stresses set up in loaded girders are somewhat ambiguous, but for all practical purposes they can be considered as resolved into vertical and horizontal components, and the nearer the form of section approaches the theoretical ideal, perhaps the more exact the assumption becomes. A girder, such as in fig. 1, acted upon by a weight in the centre, will, when under strain, assume another form; that is, it will be deflected in the centre, and fall into the position shown by the dotted lines. This altered shape causes a shortening of the top flange and a lengthening of the bottom flange, and thus indicates the character of the horizontal stresses; that is to say, compression in the top, and tension in the bottom flange, as shown by the arrows, fig. 1. In girders with thin webs, the horizontal or flange stresses are assumed to act wholly on the flanges, and the vertical or shearing stress to be taken by the web. These assumptions simplify the calculations of girders, and are not far from the truth. By theoretical investigation, it is found that the flange and shearing stresses vary from point to point, and are considerably affected by the position of the load. Innumerable diagrams may be drawn to represent the varying intensity of the stresses in girders under different conditions, but the following have been given as cases often occurring in actual practice.

The vertical ordinate at any point above the beam is proportional to the flange stress at that point, and those below are proportional to the shearing stresses. In fig. 2 (semi-girder loaded at extremity) the flange stresses vary as the ordinates of a triangle, while the shearing stress is the same throughout. In fig. 3 (semi-girder uniformly loaded) the flange stresses vary as the ordinates of a parabola, while the shearing stresses vary as the ordinates of a triangle. In fig. 4 (girder loaded at centre) the flange stresses vary as the ordinates of a triangle whose apex is over the load, and the shearing stresses are the same throughout. In fig. 5 (girder loaded uniformly) the flange stresses vary as the ordinates of a parabola, while the shearing stresses vary as the ordinates of a triangle from the centre, where it is *nil*, to the abutment, where it is a maximum. In fig. 6 (girder loaded at any point) the flange stresses vary as the ordinates of a triangle whose apex is vertically over the load, and the shearing stresses vary as the reactions of the supports.

Books.

Colour: an Elementary Manual for Students. By A. H. CHURCH, M.A., F.C.S., Professor of Chemistry in the Royal Academy of Arts. London: Cassell & Co. 1887.

THIS manual on colour is a revised edition of Prof. Church's small work published in 1871, and is practically a new work, bringing our knowledge of chromatics down to the present day. The author claims for it that it explains in a concise and popular form the phenomena and employment of colour, but to part of this statement we are compelled to demur. That the subject is treated in a concise manner is most true, for the book has all the appearance of being a reprint of the Professor's short notes for his lectures, or at most, of being a "cram" for students preparing for a pass examination. It is wonderful, indeed, how much information has been condensed into the somewhat less than 200 pages of this small volume, but this has only been accomplished by the use of technical and scientific terms and language which deprives the book of all claims to being a popular manual in the ordinary meaning of the word. Prof. Church is a chemist, and he is therefore probably not aware how unfamiliar much of his language is to the unitiated, and to persons of ordinary education. For instance, in the simple matter of making soap-suds for blowing bubbles to show some instructive and beautiful colour phenomena, he tells us to "take 100 grains of pure potassium oleate, dissolve it in eight ounces of recently boiled and still warm water, and add 6½ ounces of glycerine,"—this potassium oleate being the substance commonly known as soft soap. Throughout the book, but especially in the earlier chapters, similar language is employed, and we miss the lucid explanations and illustrations of technical terms which make Rood's "Modern Chromatics" such instructive and pleasant reading to ordinary students, and to those who are not already familiar with the scientific phraseology of optics and chemistry.

This severity of language does not, however, disqualify the book as a student's manual; and the chapters which deal with the manipulation of pigments to produce other colours, tints, and shades, contrasts, harmonies, &c., which are more especially of interest to architects and artists, are comparatively free from it, and may be studied with much interest and profit by them. It is surprising that the science of colour, or, at any rate, of pigments, has not been reduced to the form of chemical notation, and symbols employed instead of colour names, which are so vaguely and loosely used in popular language. Clerk-Maxwell's experiments with coloured discs seem to have paved the way for the introduction of a symbolic

and equivalent notation into this somewhat imperfect science; and until some simplification is effected in this direction we must look in vain for anything of the nature of a popular book on colour.

Prof. Church's manual is illustrated by some good chromo-lithographic diagrams of the three-colour sensations; true and false complementaries contrasted; advancing and retiring colours; lustre produced by binocular vision; contrasts of colours with white, grey, and black; simultaneous contrasts, and separation of related hues. With a fuller index the book would be a most useful book of reference.

A Treatise on Mathematical Instruments: their Construction, Adjustment, Testing, and Use concisely Explained. By J. F. HEATHER, M.A., of the Royal Military Academy, Woolwich, author of "Descriptive Geometry," &c. Fourteenth edition. Revised, with additions, by ARTHUR T. WALMISLEY, M.I.C.E., Fellow of the Surveyors' Institute, &c. London: Crosby Lockwood & Son.

THIS little manual, which forms No. 32 of Weale's Rudimentary Series, the fourteenth edition of which, revised, with additions, by Mr. A. T. Walmisley, is now before us, contains in its 214 pages a wonderful amount of information which is interesting to the student, and a perusal of its pages may be in many cases useful to those who have long passed the stage of pupilage. We have, to begin with, descriptive remarks on drawing instruments, including compasses of all sorts, drawing-pens, scales both for plotting and for purposes of calculation, the projection of the sphere, the construction of dials, the pantograph, and the eidograph, followed by some practical hints on the management of drawing-paper, in stretching it on the drawing-board, in mounting it on cloth, and accompanied by a table of dimensions of hand-made drawing-paper.

In the second part optical instruments are dealt with; their construction, adjustments, uses, and application described and illustrated. First in place we have the prism, followed by lenses of different forms, reflectors (plane and curvilinear), microscopes, telescopes, the solar microscope, the camera obscura, and the camera lucida.

Part 3 is devoted to surveying instruments, and embraces the chain, the spirit level, the prismatic compass, the optical square, the box sextant, the theodolite, protractors of different forms, and the station pointer.

In part 4 we find descriptions of astronomical instruments, such as the sextant, the reflecting circle, the transit instrument, the collimator, and altitude and azimuth instruments. The appendix deals with improvements made of late years in the instruments and tools described in the body of the work, and with some instruments not there alluded to, such as the clinometer, range-finders, the telemeter, the omnimeter, Dalrymple Hay's curve ranger, microscopes, the aneroid barometer, the perambulator, and photographic instruments.

From this short recapitulation of the contents of the little volume under consideration it will be at once seen that the space available for dealing with any one instrument is not great; the descriptions are, however, as a rule, clear, and the illustrations sufficient.

We are somewhat disappointed to find that the body of the book up to page 166 is, with the exception of a few references to the appendix, the addition of illustrations and the remarks on the pantograph and the eidograph, an article on hypsometrical instruments and field glasses and the elision of a chapter on the goniometer, an almost exact transcript of the second edition published in 1851. Even the errors are reproduced, for in plate I. certain lines and letters are wanting in both editions, in the diagram on page 40 a letter is omitted, and in page 62 C is said to equal 34·25, which is again said to equal 32¼.

In the edition before us, plate II., which should face page 54, is placed at the commencement of the book.

We cannot agree with the dictum that for accurate plotting it is preferable to use compasses to pricking direct from the scale, and we think that some additional remarks might have been made with advantage on plotting scales, the materials they are made from, and the use of scales having chains marked on one edge and feet on the other. The same remarks apply to straight edges and curves; they are made of many materials, some much more reliable than others. Set squares, which by combination may be made to produce such a variety of figures and to serve such a number of purposes, are never once mentioned.

At page 92 Ramsden's chain is described as the most accurate instrument for measuring base lines. It need scarcely be said that, though exceedingly good results were obtained from its use, especially when compared with older forms of measurement, very much more reliable instruments have since been produced for the accurate measurement of long distances for geodetic purposes.

In the descriptions of spirit levels the greatest prominence is given to the Y level, which is almost obsolete, and the adjustments for this instrument, which are useless for any other form of level, are given very fully, and curiously enough are repeated in the appendix; others of the spirit levels described are old-fashioned, and the descriptions of some of them might have been omitted with advantage. The jointed level staff here mentioned is also old-fashioned, and Sopwith's staff is neither described nor illustrated and is only referred to incidentally in the appendix.

On page 123 a plate of a six-inch transit theodolite is given, whereas in the old edition a five-inch common theodolite was illustrated in the same place. This has led to considerable confusion in the description, for the instrument is described as having parallel plates, whereas it is of the three-screw form. The description of the adjustments is for a theodolite having a telescope fitted in Y's and reversible, and are not applicable to a transit instrument, and nowhere in the book are the proper tests for the adjustments of a transit instrument in azimuth recorded. The arc is described as being divided either way, from 0° to 90°, whereas the vertical plate, being a perfect circle, it is, of course, divided from 0° to 360°.

In all cases the accuracy with which the verniers may be read is much underestimated, it being quite possible with a well-divided instrument to read to 3″, and, by repeated readings, to reduce this error considerably.

The corner of a building is repeatedly referred to as a safe means of checking the verticality of the circle described by the telescope of a theodolite or transit instrument: it need scarcely be remarked that as we have no proof that the building is vertical the check is, comparatively speaking, valueless, and that where a plumb-line would not be reliable it is better to use independent marks one much above the other, and so test the accuracy of the lower mark by reversing the instrument until the two will agree, whether read with the zero on the right or the left hand of the instrument.

We must not grumble if we get more than we bargain for, but we do not understand why the chapter on the projection of the sphere should have been introduced into a work which deals with instruments, or why, having been introduced, the description of projections should have stopped short at that of the sphere.

We have no doubt there is some valid reason why the appendix has taken that form, but we regret that this addition has been made as an appendix, and that we find the pantograph (which, by the way, is spelt in one place pantagraph, in another pentagraph, while Webster says it should be spelt pantograph) described at p. 50 and again at p. 134, levels at pp. 108 and 183, theodolites at pp. 122 and 172; and we do not see why the articles dealing with these subjects might not have been made consecutive, whereby also they might have been considerably shortened.

That portion of the appendix which deals with optical instruments for length measurements is most useful and interesting, and the descriptive matter is clear and concise; the Hoffman joint, for levels, dials, and theodolites, is also worthy of notice.

Leben und Sitten der Griechen. Von Prof. Dr H. BLÜMNER. Mit 19 Vollbildern und 73 in den Text Gedrückten Abbildungen in drei Abteilungen. Leipzig: C. Freitag. 1887.

DR. BLÜMNER'S book is a good specimen of a class of work that is constantly appearing in Germany, rarely in England. It is a popularisation of all that can be popularised in one branch of recent archæological investigations. It is fairly well understood, even in England, that Greek vase-paintings are a rich mine for information as to not only mythology but also Greek daily life and custom in the house, the palæstra, the temple, the theatre. Yet it is impossible to point to any English book in which systematic use is made of a source so valuable. At the most we can but point to a few scattered illustrations in classical dictionaries, illustrations showing so superficial a knowledge of the subject matter used as to be almost worse than useless. Dr. Blümner does not neglect the evidence of terra-cottas, statues, gems, and the like, but by far the larger proportion of his abundant illustrations are drawn from ceramography. His plan is to take the Greek child from its birth and trace its experience down to the grave. Thus the first of the three parts contains "Birth and Early Childhood, Education, School Life, Marriage." The second part has "Games and Festivals," the theatre, war by land and sea, country life and trade, and so on. Illustrations are drawn not only from vases well known, but also from those so far familiar only to the professional, such, *e.g.*, as the "Dipylon" series. Abundant use, we are also glad to see, has been made of the vases with artists' signatures, many of them till now only accessible in the Vienna Vorlegeblätter. It is, unhappily, scarcely needful to say that in a book so very cheap (the whole three marks) there is great diversity in the plates. Some of the outline illustrations from vases are excellent; others, where a cheap mechanical process of photo-printing is employed, as in some of the grave-reliefs, are simply terrible.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

7,959, Flooring, Wainscoting, &c. G. H. Levis.

This invention relates to an improved flexible fabric or structure formed of strips of wood or other material, united by means of wires, which can be used for covering floors or for wainscoting. The strips of wood are placed side by side, or edge to edge, and are secured by means of wires bent or curved so that they will have considerable elasticity, and which are passed through holes bored or pierced transversely through the strips at suitable distances apart. Different coloured woods are employed for decorative effect. The covering is flexible and durable.

17,709, Basins for Water-closets. S. Worsencroft.

According to this invention an air-channel passes wholly or partially round the upper edge of the basin in connexion with an air-shaft. The basin is by this means always ventilated.

4,079, Burglar Alarm. J. Enright.

The novelty of this invention consists principally in causing the breaking of an electric circuit to give the alarm. The windows, doors, &c., through which an intruder may enter are connected with a galvanic battery in such a manner that when they are closed the circuit is closed, and any attempt to break open one of them breaks the circuit.

6,977, Portable Terra-Cotta Stoves. T. Roberts.

In order to prevent the terra-cotta lining from expanding or bulging out when the stove is overheated, a separate cylinder of wirework is, by this invention, added, which allows for expansion, and afterwards returns to its proper shape and position.

17,458, Chimney Top. J. Horne and S. Hollyman.

The chimney-pot which is the subject of this patent is of peculiar form, having a bulb or circular receptacle near the top; the interior of this receptacle is fitted with baffles, which entirely prevent down-draught. This bulb is claimed to preserve in a remarkable way the temperature of the room to the chimney of which the pot is applied. When a fire is burning it is a gasometer of heated gases, and when a fire is not burning, it is still a globe of air warmer than that of the external atmosphere thus ventilating always. The slightest experiment will prove this, say a piece of lighted paper placed at the bottom of the shaft inside. The globe of heated air is not only supported by the ascending current of shaft and chimney, but is further assisted to discharge itself by a powerful inrush of air through the perforations, the current of colder air being, however, diverted by a baffle flange fitted in the interior of the pot so as not to contract unduly the globular space while increasing the upward current already made. The most adverse action of the winds tends simply to compress the air in the globe, which escapes through perforations made in the under side, as its easier course, and helps the smoke still more quickly to pass from under the shield.

NEW APPLICATIONS FOR PATENTS.

Feb.—24.—2,764, J. Sharples, Circular Bits for Woodwood.—2,781, J. Rennolds, Fixing Door-knobs or Handles to Spindles.—2,788, T. Sergeant and W.

Cook, Mitring Machines.—2,797, J. Munro, Boxes or Vessels for Lowering or Depositing Concrete, &c., for the Foundations of Sea-walls, &c.—2,799, J. Hird and J. Ford, Casement and Sash Windows, Doors, &c.—2,803, J. Brunton and L. Griffiths, Artificial Stone.

Feb. 25.—2,811, H. Rallings, Joints for Water, Gas, and Other Pipes.—2,815, M. Fawcett, Fireproof Floors.—2,839, W. Stiel, Water-closets.—2,843, V. Mehay, Instantaneous Opening of Doors and Windows.—2,855, G. Rieunier, Draught, Dust, and Damp Excluder.—2,860, E. Owens and G. Jennings, Stoves and Grates.

Feb. 27.—2,886, F. Gibbons, Sash-pulleys for Windows, &c.—2,902, F. Humpherson, Syphon Flushing-cisterns.—2,904, P. Clark, Smoke-consuming Cooking Register Stoves.—2,929, H. Hargrave and A. Lyon, Preventing Down-draughts in Chimneys.

Feb. 28.—2,955, A. Ford and E. Wright, Self-ventilating Sewer Pipe and System of Sewer Ventilation.—2,961, A. Bland, Boilers for Heating Water for Buildings, &c.—2,967, H. Goodridge and S. Fairland.—Window Fastenings.—2.984, R. Stone, Manufacture of Cement, &c.—3,001, W. Johnson, Securing Door-handles to Spindles.—3,002, J. Bailey and H. Tapp, Self-opening Doors for Theatres and other Buildings.—3,012, S. Hellyer, Ventilation of the Discharge Pipes or Passages in connexion with Water-closets, &c.

Feb. 29.—3,052, N. Haran, Joint for Pipes.—3,085, H. Smith, Securing Handles on Door-spindles and releasing them when necessary.

Mar. 1.—3,117, J. Mulligan, Uptake Ventilators or Chimney Cowls.—3,155, J. Lewen, Rain-water Drain and Similar Pipes.—3,156, H. Lawrance, Chimney Cowl and Exhaust Ventilator.

PROVISIONAL SPECIFICATIONS ACCEPTED.

17,922, T. Fisk, Tap and Pipe Connector.—482, T. Grimbleby, Roofing Tile.—521, W. Wade, Doors and other Panelled Structures.—605, K. Brunnschweiler, Fire Grates.—802, F. Winfield, Ventilating Sewers.—972, J. Gouin, Trussed Girders.—1,100, G. Downing, Electrical Brazing and Soldering.—1,154, A. Eggimann, Roofings of Hollow Tiles, &c.—1,199, A. Brown, Ventilator.—1,294, J. Cliffe, Fibrous Asphalt Composition for Rendering Concrete Roofs, Walls, &c., Water and Damp Proof.—1,295, R. Harrison, Opening, Closing, and Adjusting Fanlights, Sashes, &c.—1,305, J. Howie, Flushing Cisterns for Water-closets, &c.—1,442, W. Baird, Flushing Water-closets.—1,446, L. Vojáček, Centrifugal Pumps and Ventilators.—1,484, R. Holmes and B. Sugden, Weather Bars and Draught Excluders for Doors or Hinged Windows.—1,515, C. Eissner, Machines for Cutting Clay for Bricks and Tiles.—1,537, J. Bury, Draught Excluders for Doors.—1,570, W. & W. H. Cowan, Flushing Cisterns.—1,704, J. Robertson, Automatic Stopper for Gas and Water Pipes.—1,715, A. Mitchell, Securing Slates to Roofs.—1,893, S. Ridge, Door Springs.—1,924, G. Warden, Roofs.—2,184, E. Story and R. Punshon, Manufacture of Glass.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

4,997, F. Pontifex, Doors and Windows for the Prevention of Draughts, and Retaining same when closed.—5,971, T. Heaps, Heating by Hot Water or Steam.—5,991, A. Howe and Others, Wind Vane and Indicator.—6,021, A. Le Marquand, Drainage of Houses, Towns, or Districts.—6,080, J. Eves, Water-closets.—6,122, H. Wake, Vessels and Machinery for Lowering and Depositing Concrete under Water.—6,346, A. Morse, Roofing and Wall Tiles.—11,205, H. Gregeen, Combination Gully, Trap, and Channel.—709, G. Bücken, Self-acting Device for Closing the Opening in the Seat of Water-closets, &c.—1,258, F. Gibbons, Night Latches for House-doors.—1,272, P. Hubert, Water-closets.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

FEBRUARY 24.

By DEBENHAM, TEWSON, & Co.
(At Broadway.)

Broadway, Worcestershire—Two enclosures of freehold land, 20a. 3r. 29p. £1,045

FEBRUARY 25.

By DEBENHAM, TEWSON, & Co.
(At Shipston-on-Stour.)

Shipston-on-Stour, Worcestershire — Hanson Farm, containing 81a. 1r. 36p., freehold 1,800

FEBRUARY 27.

By Messrs. ELGOOD.

Brunswick Square — Improved ground-rents of £248. 6s., term 18½ years 2,215
Burton-Crescent—An improved ground-rent of 21*l.* 5s., term 18½ years 210
St. John's Wood—15, Grove End-road, 30 years, no ground-rent 1,250
Marylebone—6, Albany Mews, 12 years, ground-rent 8*l.* 10s. 115

By GRAVES & SON.

North Kensington—14, Raddington-road, 77 years, ground-rent 7*l.* 210

FEBRUARY 28.

By FULLER & FULLER.

Richmond—7, Townshend Villas, 61 years, ground-rent 7*l.* 7s. 600
Lincoln's-Inn—7, Gilbert's-passage, freehold 1,450

By H. RUTLEY.

Caledonian-road — 31, Storey-street, 56 years, ground-rent 6*l.* £335
15, Bemerton-street, 53 years, ground-rent 6*l.* 335
38, Freeling-street, 56 years, ground-rent 6*l.* 335
Bloomsbury—4, Lamb's Conduit-street, a profit rental of 35*l.*, term 9 years 285

By J. LEES.
(At Redhill.)

Earlswood—The copyhold residence called "Coldsmead" 385

FEBRUARY 29.

By P. D. TUCKETT.

Venezuela—The Victory Mine and 1,572 acres, with plant, machinery, &c. 2,910

By A. WATSON.

Brompton—1 and 2, Cottage-place, 32 years, ground-rent 7*l.* 660
Shepherd's Bush—55, Godolphin-road, freehold ... 500

By J. & R. KEMP & Co.

Kentish-Town—5, Willow-walk, copyhold 555
109, Kentish Town-road, copyhold 530

By CHARLES & TUBBS.

City, Australian-avenue — Ground-rent of 120*l.*, reversion in 69 years 3,000

By H. DONALDSON.

Chelsea—42, Smith-street, Freehold 880
15, Smith-street, freehold 690

By R. TIDEY & SON.

Islington—5, Oakley-road, 53 years, ground-rent 5*l.* 460

By HOBSON, RICHARDS, & Co.

Kensington—25, Campden-grove, 55 years, ground-rent 7*l.* 925
Edgware-road—9 and 10, Moore-street, 13¾ years, no ground-rent 110

By E. ROBINS & HINE.

Westminster—12 and 14, Horseferry-road, freehold 920
3 to 9 odd, Romney-street, freehold 1,670
1 and 2, Grub-street, and 1 to 10, York Buildings, freehold 1,000
Pimlico—120, Tachbrook-street, 42 years, ground-rent 8*l.* 535

WALKER & RUNTZ.

Gray's Inn-road—The letting of eight plots of land for 80 years, let at 437*l.* 10s. a year.

By F. JOLLY & Co.

Mile-End—122, Grove-road, 50 years, ground-rent 4*l.* 4s. 415
Poplar—40 and 42, Gough-street, 48 years, ground-rent 4*l.* 16s. 560
Stamford Hill—103, Darenth-road, 93 years, ground-rent, 10*l.* 710
Bromley-by-Bow — 57, Wyvis-street, 77 years, ground-rent 3*l.* 15s. 220

MARCH 1.

By E. & S. SMITH.

Clerkenwell—31, Margaret-street, 28 years, ground-rent 7*l.* 305
New North-road—98 and 100, Shepperton-road, 32 years, ground-rent 10*l.* 530
Clerkenwell—Improved ground-rents of 103*l.* 2s., term 27 years 1,470
Kensington—Improved ground rents of 93*l.* 10s., term 34 years 1,955

By CUMBERLAND & HOPKINS.

Leighton Buzzard, near—"Rushmere Lodge," and 13a. 2r. 29p. 2,000

By NEWBON & HARDING.

Camden Town—30, St. Augustine's-road, 62 years, ground-rent 6*l.* 515
Bethnal Green—156, 158, and 160, Cambridge-road, 18 years, ground-rent 12*l.* 600
Highbury—15, Highbury-terrace, freehold 1,270
121 and 129, Petherton-road, 62 years, ground-rent 14*l.* 14s. 1,105
Stoke Newington—122, Albion-road, freehold 1,510
36, Brooke-road, 90 years, ground-rent 7*l.* 10s. ... 335
Canonbury—26, 28, 29, and 30, Canonbury-square, 31 years, ground-rent 28*l.* 16s. 1,275
7, St. Paul's-place, 37 years, ground-rent 8*l.* 12s. 310
Highbury—An improved rental of 100*l.*, term 10 years 325

By WORSFOLD & HAYWARD.

Dover—32 and 34, Clarendon-street, freehold 510
82, Snargate-street, 40 years, ground-rent 3*l.* 160
56, London-road, freehold 340
1 and 2, Alexandra Cottages, freehold 345

MARCH 2.

By E. HOLSWORTH.

Dalston—41 and 43, Gayhurst-road, 52 years, ground-rent 10*l.* 610
43, 45, and 47, Lavender-grove, 59 years, ground-rent 15*l.* 1,015

MEETINGS.

SATURDAY, MARCH 10.

Architectural Association.—Visit to St. Ermin's Mansions, Caxton-street, Westminster. (See advt. on first page in the issue for Feb. 25.)

MONDAY, MARCH 12.

Society of Arts (Cantor Lectures).—Professor W. Chandler Roberts-Austen, F.R.S., on "Alloys." I. 8 p.m.

WEDNESDAY, MARCH 14.

Architects' Benevolent Society.—Annual General Meeting. 5 p.m.

Civil and Mechanical Engineers' Society.—Mr. A. C. Schönberg on "The Construction and Use of the Hopper Dredger." 7 p.m.

THURSDAY, MARCH 15.

Parkes Museum.—Miss M. A. Chreiman on "Physical Culture." 5 p.m.

Society of Antiquaries.—8·30 p.m.

FRIDAY, MARCH 16.

Architectural Association.—Professor Unwin on "Hydraulics for Architects." 7·30 p.m.

SATURDAY, MARCH 17.

Society of Arts.—Professor J. Oliver Lodge, F.R.S., on "The Protection of Buildings from Lightning." 3 p.m.

Architectural Association.—Visit to New Hall of the Cutlers' Company. (See advt. on first page.)

Association of Municipal and Sanitary Engineers and Surveyors.—Home Counties' District Meeting at Maidstone. (Town-hall, 12 Noon.)

Miscellanea.

The Utilisation of the London Sewage. Dr. C. R. Drysdale asks a very pertinent question,—not for the first time, we are sorry to say,—of the Metropolitan Board of Works. The question, as most of our readers will know, is one that concerns the purification of the Thames and the utilisation of London sewage. Whilst Paris and Berlin, whilst even English provincial towns, are setting an example to this great metropolis how to go about cleansing its river and turning what is an abomination into usefulness, London the hydra-headed continues to display a callous indifference to the ordinary principles of sanitation which is perfectly disgraceful. Here we are year after year spending the ratepayers' money on a scheme which has been long condemned both by men of science and by practical engineers, simply because we allow an incompetent body of men to regulate our sanitary and other affairs. As Dr. Drysdale points out, the Board of Works goes on with its useless and expensive separating tanks at Barking and Crossness, the former of which will soon cost half a million sterling, and will have to be abandoned in a few years, as not only useless, but worse than useless. It is said that, when the Board took the opinion of a distinguished chemist the other day, that gentleman pronounced that the present scheme for deodorising the sewage would be perfectly useless and illusory. All this is very humiliating to us, as a sensible and practical nation; and it is to be hoped that some strong remonstrance to the Metropolitan Board of Works may soon make them adopt the only plan of utilisation of the sewage which experience now sanctions,—the broad irrigation scheme of Paris and Berlin. Every engineer of eminence has condemned the present action of the Board of Works; every chemist of distinction ridicules the absurd plan of precipitation in the huge tank at Barking. Why, in the name of reason, cannot the Board listen to the voice of science and purchase some of that land in Essex which at present is so cheap, to make a commencement of sewage irrigation, and thus purify the river Thames, raise grass and green crops for 150,000 cows or cattle, and cease to be a gazing stock to the rest of the world? We thoroughly sympathise with Dr. Drysdale in his efforts to find a solution, and we can only repeat what all the world knows. The Metropolitan Board of Works has been found wanting in more than one respect lately, much to the disgust of some of its members, at present in a minority, who would do all that is needed to prevent the name of the Board being used as a by-word and a reproach. The cup of popular indignation is nearly full to the brim, and a time is surely coming when it will overflow, and reform be insisted on or taken in hand by those most nearly concerned, the people of London.—*Iron.*

Consul Loytved's Archæological Discoveries in Phœnicia.—In an article last year in the *Builder* on the above discoveries, made by the Danish Consul, Löytved, at Beyrouth, we described an inscription on a semi-column, 1 mètre in height, dedicated to the god Baal-Markod, and discovered in a convent in Lebanon. This column M. Löytved has presented to the Louvre, and it was recently the subject of discussion before the Académie des Inscriptions et Belles-Lettres, when the President of that body stated that the name of the god Baal-Markod was only known from a single former inscription, which was also in the possession of the Louvre; but there was no other museum in the world possessing an inscription with the name of this god, who appeared to have played such a prominent *rôle* in the Lebanon during the reign of the Greeks and Romans.

The National Registration of Plumbers. At a public meeting at Dundee, on the 3rd inst., convened by an Edinburgh organisation, called "The Scottish Society for the Registration of Plumbers," the following resolution, moved by Mr. Alexander Davidson, plumber, seconded by ex-Provost Ballingall:—

"The meeting, having heard the deputation from the Scottish Society for the Registration of Plumbers, and having in view the large amount of useful national registration already done in Scotland in connexion with the Worshipful Company of Plumbers, London, resolves that the initiation of a separate society in Edinburgh is unnecessary, that its origin and constitution are objectionable, and its action is likely to prove injurious to the plumber craft, and to prejudice the public mind against the system of registration,"

was carried by an overwhelming majority.

The Gray's Inn-road Improvement.—Letting of Building Sites.—Last week Messrs. Walker & Runtz, by order of the Metropolitan Board of Works, submitted for letting, on building leases, a number of sites forming a portion of the vacant land cleared for the Gray's Inn-road improvement. The sites submitted were eight in number, having frontages to Gray's Inn-road, Clerkenwell-road, and Verulam-street. They were offered on building leases for a term of eighty years. Most of the sites are close to the Holborn Town-hall. The first site offered comprised a corner plot on the east side of Gray's Inn-road and the north side of Clerkenwell-road, having a frontage of 43 ft. to Gray's Inn-road, and 94 ft. to Clerkenwell-road, and covering an area of 3,950 ft. The conditions provided that the lessee of this lot would be required to expend a sum of not less than 7,000*l.* in erecting a new building. There was an active competition for the site, the biddings commencing by an offer of 100*l.* a year ground-rent, and it was ultimately let on a ground-rent of 207*l.* 10s. per annum. The next lot comprised a corner plot on the east side of Gray's Inn-road and the south side of Verulam-street, having a frontage of 27 ft. to Gray's Inn-road, and of 50 ft. to Verulam-street, and covering an area of 1,228 ft., the lessee being required to expend not less than 1,500*l.* in building. It was let on a ground-rent of 40*l.* a year; another corner plot on the east side of Gray's Inn-road and the north side of Verulam-street, containing 1,260 ft., on which not less than 1,500*l.* is to be spent in building, was also let on a ground-rent of 40*l.* a year. The other five plots, all situated on the east side of Gray's Inn-road, each containing an area of 1,000 ft., and on each of which not less than 1,000*l.* in building, were all let on ground-rents of 30*l.* a year. The whole of the lots were thus let on ground-rents amounting in the aggregate to 437*l.* 10s. per annum, 15,000*l.* to be expended in building.

Manchester Architectural Association. The last ordinary meeting of this Association was held at the Diocesan Buildings on the 6th inst., Mr. A. H. Davies Colley, A.R.I.B.A. (President), in the chair. The question of "Registration" was discussed. The following resolution was proposed by Mr. T. Chadwick, A.R.I.B.A., seconded by Mr. E. Hewitt, A.R.I.B.A., and supported by the Chairman, "That in the matter of the proposed Bill for the Registration of Architects, Engineers, and Surveyors, this Association continue to support the action of the R.I.B.A.; at the same time they express the hope that a scheme for the Registration of Architects may be speedily adopted." An amendment to the following effect was proposed by Mr. F. W. Mee, seconded by Mr. W. Perry, and supported by Messrs. Schofield and Hodgson, "That while regretting the R.I.B.A. has taken no practical steps in the matter of Registration, we feel called upon to support the Bill promoted by the Society." The amendment being lost the original resolution was adopted. We may observe in regard to this amendment that the proposers of it ought to know perfectly well, if they know anything at all, that the Institute is preparing a report on the subject, and also that both the present and last President of the Institute have expressed their decided opinion that any advantage to be derived from Registration would be better achieved through the medium of the very efficient examination now established for membership of the Institute.

Association of Municipal and Sanitary Engineers and Surveyors.—A Home Counties District meeting of this Association is to be held at Maidstone, on Saturday next, March 17th. The members will assemble at twelve o'clock (noon) in the Council Chamber at the Town Hall. After the election of a District Secretary, the following paper will be read and discussed, "A Review of the Sanitary and other Improvements in the Borough of Maidstone during the last Ten Years." By Francis J. C. May, A.M. Inst. C.E., Borough Surveyor. After luncheon, a visit will be paid to the sewage outfall works upon the Medway, where the new sludge-presses and other interesting machinery will be inspected. Afterwards, if time will permit, the members will proceed to visit and inspect the other works and institutions of interest within the borough; and upon the return to Maidstone it is proposed that the members should dine together with the Mayor and Corporation.

The Thames and the London Sewage.—We alluded last week (p. 150) to the continued suppression by the Metropolitan Board of Works of Sir Henry Roscoe's report on the London sewage. We are glad to see that at the meeting of the Board, to be held a few hours after this number of the *Builder* is published, Mr. John Jones will move:—

"That the secrecy which limits the use of Sir H. Roscoe's report on sewage to the Members of the Board, be removed; the report referred to is that on the deodorisation of the sewage of the outfalls obtained and printed at the cost of the ratepayers."

In connexion with this subject, we notice that a meeting of Members of Parliament interested in the condition of the River Thames was held in one of the committee-rooms of the House of Commons on the 2nd inst. to consider what steps should be taken, in view of the appointment of a Royal Commission to investigate the charges against the Metropolitan Board of Works, to call public attention to the pollution of the river from sewage. Mr. Kenyon presided, and there were present Mr. Osborne Morgan, Mr. R. Chamberlain, Mr. Edward Morris, Mr. Lewis H. Isaacs, Mr. Tomlinson, Colonel Cornwallis West, and Mr. W. F. Lawrence. Mr. Parish, clerk to the Erith Local Board, who was in attendance, alleged that the Metropolitan Board of Works had failed to carry out, except in a partial and tentative fashion, the recommendations arrived at after a searching and scientific inquiry made by Lord Bramwell's Commission appointed in 1882, with the result that last year the river was in a most dangerous state. He further stated his opinion that if the present dry weather was followed by a hot summer disastrous consequences would ensue. After some discussion it was agreed that a question should be addressed to the Home Secretary, asking whether the scope of the reference to the proposed Royal Commission cannot be made sufficiently wide to embrace an inquiry into the conduct of the Metropolitan Board of Works in this connexion. Accordingly, in the House of Commons, on the 6th inst., Mr. Kenyon asked the Home Secretary when the Royal Commission moved for by Lord Randolph Churchill would be appointed, and whether the terms of reference would be such as to include the method of dealing with the sewage of the metropolis at present adopted by the Metropolitan Board of Works and the recommendation of the Royal Commission presided over by Lord Bramwell, which reported in 1884. Mr. Matthews, in reply, said:—The appointment of this Royal Commission is now under consideration. The method of dealing with the sewage of the metropolis appears to me to be outside the scope of the inquiry, which would, however, embrace any alleged irregularities in the financial transactions connected with the works which have been undertaken by the Board.

The Royal Gold Medal for Architecture.—At the meeting of the Royal Institute of British Architects on Monday last, the recommendation of the Council—"That, subject to Her Majesty's gracious sanction, the Royal Gold Medal for the year 1888 be presented to Theophilos, Freiherr von Hansen, Hon. Corr. Member (Vienna), for his works as an architect, notably the Sina Academy at Athens and the newly-erected Parliament Houses at Vienna," was approved and adopted. Baron von Hansen's works at Vienna include, besides the new Houses of Parliament, the Imperial Academy of Fine Arts, erected in 1874-76; the Bourse, erected in 1875; and other important buildings which have risen since the enlargement of the Inner City caused by the demolition of the old fortifications. These great works were fully alluded to in the papers read before the Institute on the 19th of December last, by Mr. Thos. Blashill and Mr. F. R. Farrow (see *Builder* for Dec. 24 last, p. 871). The Baron's work in Athens has been recently described by himself in an address, the gist of which is given in the current number of the *R.I.B.A. Journal*.

A Mansion Burnt Down.—Ditcham Hall, near Petersfield, Hants, was destroyed by fire on Monday morning. It belonged to Mr. L. T. Cave, banker, London. The damage is estimated at upwards of 200,000*l.* The house had just been rebuilt, at a cost of 100,000*l.*, and contained valuable furniture, antiquities, and works of art. The outbreak of the fire is attributed to the over-heating of a boiler in the basement.

The Ash.—Of individual trees, undoubtedly the most remarkable is that at Woburn Abbey, 90 ft. high, with a stem 28 ft. high, more than 23 ft. round at its base, and 15 ft. at 3 ft. from the ground, with branches spreading 113 ft., and containing timber estimated at 872 cubic feet. The wood of the ash is a greyish-white throughout, the sap-wood being used along with the more central portions,—an advantage peculiar to but few species. It is more flexible than that of any other European tree, and its value is increased by rapid growth. Few trees become useful so soon, it being fit for walking-sticks at four years' growth, for spade-handles at nine, and when 3 in. in diameter as valuable as the timber of the largest tree. In the Potteries it is largely used for crate-making, and in Kent for hop-poles. Both the spokes and the felloes of wheels are made from it, and from its flexibility it is, in fact, "the husbandman's tree" for every kind of agricultural implement. The tree lives to an age of several centuries, but can be most profitably felled at from eighty to a hundred years old. For smaller wood it is, of course, largely treated as coppice. The roots and knotty parts of the stem are valued by cabinet-makers, and were, according to Evelyn, known as "green ebony." The timber, when beginning to decay, becomes stained of a blackish hue at the heart, and the young shoots, like those of the holly, are very liable to the malformation known as "fasciation,"—"the wreathed fascia" of the older writers,—in which several branches grow together in a flattened and often spirally twisted form. Few trees are less particular as to soil than the ash.—*From "Cassell's Familiar Trees"* for March.

Leeds Operative Carpenters and Joiners. At a meeting of operative carpenters and joiners, held in the St. James's Hall, Leeds, on Monday evening last, the present position of the trade was considered, with special reference to a notice issued by the Leeds Master Builders' Association, calling for an alteration of working rules. Mr. Joseph Pallister presided, and there was a large attendance of both society and non-society men. The Chairman explained that the masters did not specify whether they wanted to reduce the wages or increase the hours, but simply required a revision of existing rules. Discussion having taken place, the rules of the trade were considered, and it was resolved that all time should be reckoned and paid for by the hour, and that 8d. per hour should be the uniform wages for carpenters and joiners; that forty-seven hours should constitute a week's work; that all overtime should be paid at the rate of time and a half; and that double time should be paid on Good Friday, Christmas Day, and Sunday; that the question of walking time, lodgings, and railway fares should be left to the committee; that piece-work should be abolished; and that should alterations of the rules be required, six months' notice should be given by either party, such notice to expire on the 1st June in any year. The *Leeds Mercury* says that so far as they concern wages and hours of labour, these resolutions are equivalent to a demand for an increase of a halfpenny an hour, and a reduction of three hours in the week's work.

Death of Mr. J. S. Burnett, Sculptor.—We regret to announce the death, at his residence, Melgund-terrace, Edinburgh, of Mr. James Stewart Burnett, A.R.S.A., sculptor. About ten days ago Mr. Burnett was laid aside by a cold, which developed into congestion of the lungs, and cut short a most promising career at the early age of thirty-four. His most important work is a statue being erected in Aberdeen to the memory of General Gordon, which is to be unveiled shortly. He leaves a widow and three children, for whom much sympathy is felt.

Trade Smoking Concert.—The "Mutual Cycling Club" (Messrs. Colls & Sons' clerks and friends) held their second smoking concert at the Masonic Hall, Camberwell, on the 29th ult. Mr. J. Howard Colls occupied the chair. Representatives of several building firms and builders' merchants were present, and an enjoyable evening was spent.

Proposed Ship-Canal round Niagara Falls.—A Reuter's telegram, dated Washington, March 6th, says that a Bill has been introduced in the House of Representatives for the appointment of a Board to direct the construction of a ship canal round the Niagara Falls for the passage of merchant and war vessels from Lake Ontario to Lake Erie.

The Construction of Modern Theatres. In a lecture on "The Homes of the Drama," delivered on March 3 by Herr Lewinsky, stage manager (Régisseur) of the Burgtheater, Vienna, the unsuitability of the modern theatre for dramatic purposes was strongly emphasised. The lecturer said that at the present day the front, staircase, and the ornamental effects of the auditorium were considered everything, and the actor had to do the best he could with the means placed at his disposal. Herr Lewinsky insisted upon low theatres with a short and natural line of vision. At present our theatres, he said, were built for operas, not for the spoken word. Wagner's stage at Bayreuth, however, was a pattern of a good theatre. In the new Burgtheater the actor's art would be appreciated only up to the second tier. Those who were placed higher would only hear the sound of the word, not the word itself; they would only see the gesture, not the purpose of the gesture; they would be spectators of a soulless marionette performance. The great fault of the old Burgtheater is its extreme length, the spectator in the last row of seats being 85 ft. from the actor. In the new Burgtheater this evil would be still greater. The spectator in the first row of the last gallery would be 79 ft. from the actor, and as that gallery is to be 23 ft. wide, the spectator in the last row would be sitting at a distance of 102 ft. from the stage. Herr Lewinsky also condemned the steadily growing tendency of luxuriously fitting up the auditorium, as a danger to the art of the actor. He demands a plain house, which should be a blending of the Greek stage with the modern auditorium,—a practical construction, serving the actor's art and not satisfying the vanity of those spectators who go to the theatre in order to join in the acting.

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. ....ton	6 10 0	7 15 0
Teak, E.I. ....load	8 0 0	12 10 0
Sequoia, U.S. ....foot cube	0 2 3	0 3 0
Ash, Canada ....load	3 0 0	4 10 0
Birch ,, ...	2 0 0	3 10 0
Elm ,, ...	3 10 0	4 10 0
Fir, Dantsic, &c.	1 10 0	4 0 0
Oak ,, ...	2 10 0	4 10 0
Canada	3 0 0	6 0 0
Pine, Canada red	2 0 0	3 10 0
,, yellow	2 0 0	4 0 0
Lath, Dantsic ....fathom	3 0 0	5 0 0
St. Petersburg	4 0 0	5 10 0
Wainscot, Riga ....log	0 0 0	0 0 0
,, Odessa, crown....	2 10 0	3 0 0

TIMBER (*continued*).	£. s. d.	£. s. d.
Deals, Finland, 2nd and 1st...std.	100 7 10 0	9 0 0
,, 4th and 3rd	6 0 0	8 0 0
Riga	5 10 0	7 10 0
St. Petersburg, 1st yellow	8 10 0	14 0 0
,, 2nd ,, ...	7 0 0	8 0 0
,, white	6 10 0	8 10 0
Swedish	6 15 0	15 0 0
White Sea	7 0 0	16 10 0
Canada, Pine, 1st	16 0 0	24 0 0
,, ,, 2nd....	10 0 0	15 10 0
,, ,, 3rd, &c....	7 0 0	9 10 0
,, Spruce, 1st	8 0 0	9 10 0
,, ,, 3rd and 2nd	5 0 0	7 0 0
New Brunswick, &c....	5 0 0	7 0 0
Battens, all kinds	4 0 0	10 10 0
Flooring Boards, sq., 1 in., prepared, First	0 8 0	0 11 6
Second	0 6 6	0 7 6
Other qualities	0 4 0	0 6 0
Cedar, Cuba ....foot	0 0 3½	0 0 3½
Honduras, &c.	0 0 3	0 0 3½
Australian	0 0 2	0 0 3
Mahogany, Cuba	0 0 4½	0 0 7
St. Domingo, cargo average	0 0 4½	0 0 6
Mexican ,, ...	0 0 3½	0 0 3½
Tobasco ,, ...	0 0 4	0 0 5
Honduras ,, ...	0 0 4	0 0 5
Maple, Bird's-eye	0 0 5	0 0 7
Rose, Rio ....ton	8 0 0	11 0 0
Bahia....	7 0 0	9 0 0
Box, Turkey	5 0 0	12 0 0
Satin, St. Domingo ....foot	0 0 5	0 0 9
Porto Rico	0 0 6	0 0 10
Walnut, Italian	0 0 4	0 0 5½

METALS.		
IRON—Bar, Welsh, in London...ton	4 15 0	4 17 6
,, ,, in Wales	4 5 0	4 10 0
,, Staffordshire, London	5 10 0	7 0 0
COPPER—		
British, cake and ingot ....ton	79 0 0	79 10 0
Best selected	80 10 0	0 0 0
Sheets, strong....	90 0 0	0 0 0
Chili, bars	81 10 0	0 0 0
YELLOW METAL....lb.	0 0 7½	0 0 7½
LEAD—		
Pig, Spanish ....ton	15 0 0	0 0 0
English, common brands....	15 5 0	0 0 0
Sheet, English	16 5 0	16 10 0
SPELTER—		
Silesian, special ....ton	19 10 0	19 15 0
Ordinary brands....	19 5 0	19 7 6
TIN—		
Straits....ton	166 10 0	0 0 0
Australian	166 10 0	0 0 0
English ingots	160 0 0	0 0 0
ZINC—		
English sheet....ton	22 0 0	23 0 0

OILS.		
Linseed ....ton	18 10 0	18 15 0
Cocoanut, Cochin	28 0 0	29 0 0
Ceylon	24 15 0	0 0 0
Palm, Lagos	21 10 0	0 0 0
Rapeseed, English pale	23 10 0	0 0 0
,, brown	22 0 0	0 0 0
Cottonseed, refined	20 0 0	20 5 0
Tallow and Oleine....	25 0 0	45 0 0
Lubricating, U.S....	5 0 0	6 0 0
,, refined....	5 0 0	12 0 0
TURPENTINE—		
American, in casks ....cwt.	1 8 6	0 0 0
TAR—		
Stockholm ....barrel	0 15 0	0 15 6
Archangel	0 10 0	0 10 6

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
Improvement of Marine Park and Lake	Southport Impt. Com.	20*l.*	March 31st	xii.
New School Buildings	Guernsey School Com.	10*l.*	April 20th	xii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Pumping Machinery....	West Cowes Local Brd.	*Official*	March 13th	xii.
Works and Materials	Chelsea Vestry....	G. R. Strachan....	do.	ii.
Removing Dust, &c.	Parish of Rotherhithe...	*Official*	do.	xii.
Galvanised Iron Pails	do.	do.	do.	xii.
Lamp Columns	Willesden Local Board	O. Claude Robson....	do.	ii.
Erection of Grain Shed, Burton-on-Trent	Midland Railway....	*Official*	March 15th	xii.
Sewage Tanks, Erection of Dead-House, &c.	Hornsey Local Board...	T. De Courcy Meade ...	March 19th	ii.
Smith's Work and Ironmongery	St. Marylebone Vestry	*Official*	do.	ii.
Pipe-Sewers, &c.	Hayward's Heath L. B.	do.	March 20th	ii.
Enlargement of Northampton Post-Office....	Com. of H.M. Works...	do.	do.	ii.
Underground Urinals and Water-Closets	Greenwich Bd. of Wks	do.	do.	xii.
Wrought-Iron Unclimbable Hurdles	Southend Local Board...	P. Dodd	do.	xii.
Altering Gasholder Tank....	Mansfield Imp. Com....	J. Heydon	March 21st	xii.
Broken Guernsey Granite	Walthamstow Local Bd.	H. S. Ridings	March 23rd	xii.
Construction of House Connexions	Dorking Local Board...	G. S. Mathews....	March 24th	xii.
Tunnelling, &c., Works	Liverpool Corporation...	G. F. Deacon....	March 26th	ii.
Alterations and Additions to Vestry Offices...	St. Mary (Islington) V.	*Official*	March 27th	xii.
Iron Girders for Bridge	Bristol U. S. A.	F. Ashmead	April 9th	xii.
Rebuiding "Cross Keys," Edmonton....	T. Perry....	A. Drewe	Not stated...	ii.
Residence....	....	Bressey & Walters	do.	ii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page
Clerk of Works	Stockton-on-Tees Cor....	3*l.* 3s. per week.....	March 13th	xvii.
Engineer's Assistant....	Salford Corporation	150*l.*	March 19th	xvii.
Foreman	Tottenhm Local Board...	2*l.* 10s. weekly	March 20th	xvii.
District Superintendent	St. Marylebone Vestry	104*l.*	March 23rd	xvii.
Surveyor of Buildings, Ireland	Civil Service Com.	Not stated	April 5th	xvi.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

ABERCARN (Mon.).—For the erection of proposed police buildings at Abercarn. Mr. William Tanner, County Surveyor, architect:—

Moulton & Brownscombe, Newport	£1,640 0 0
F. Goldsworthy, Newport....	1,556 0 0
David Davies, Cardiff....	1,520 0 0
Edward Morgan, Tredegar	1,518 0 0
Henry Parfitt, Pontnewydd	1,475 0 0
W. A. Linton, Newport....	1,450 0 0
G. Martin, Newport	1,450 0 0
John Linton, Newport	1,399 0 0
W. Jones & Son, Newport....	1,395 0 0
John Slade, Newport	1,347 14 0
Morgan & Evans, Pontnewydd	1,337 17 0
John Burgoyne, Blaenavon	1,299 0 0
W. Blackburn, Newport	1,298 0 0
Charles Miles, Newport....	1,275 0 0
Thomas Williams & Son, Newbridge	1,245 0 0

[Architect's estimate, 1,320*l.*]

BANBURY.—For the erection of two new shops and work and show rooms, Broad-street, Banbury, for the Banbury Co-Operative Society. Mr. H. Hopkins, surveyor:—

Orchard	£1,045 0 0
E. Jarvis....	1,020 0 0
W. Claridge	985 0 0
J. S. Kimberley	980 0 0
C. Claridge....	970 0 0
Perry	957 0 0
J. Grant	868 0 0
T. Page (accepted)	825 0 0

CARSHALTON.—For alterations and extension of The Rose public-house, Carshalton, for Messrs. Crowley. Mr. Edward Saunders, architect:—

Marriage, Croydon....	£365 0 0
Smith & Sons	365 0 0
Wimburn, Croydon (accepted)	350 0 0

CHELSEA.—For the erection of a Cookery Centre on the Edinburgh-road site (Chelsea AD[1]), for the School Board for London. Mr. T. J. Bailey, architect:—

E. Lake	£550 0 0
W. Johnson	480 0 0
T. Bendon....	454 0 0
C. Wall	439 0 0
Simmonds Bros.	427 0 0
J. Channon*	419 0 0

* Recommended by the Works Committee for acceptance.

COULSDON (Surrey).—For pulling down the present old inn, The Fox, Coulsdon Common, and rebuilding. Mr. E. Saunders, architect. Quantities supplied:—

Harman	£1,307 0 0
Docking	1,268 0 0
Horrocks....	1,180 0 0
Smith & Son	1,150 0 0
Quitteaton	1,096 0 0
Marriage	1,085 0 0
J. & J. Ward (accepted)....	1,057 0 0

DEPTFORD.—For erecting a chimney-shaft and apparatus and paving at Reginald-place, Deptford, for the Kent Bone and Tallow Company, Limited. Mr. John Jas. Downes, architect, 183, Lewisham High-road, S.E.:—

W. H. Lorden & Son....	£124 0 0
H. L. Holloway (accepted)	108 0 0

GUILDFORD. — For alterations and additions to "Marlyns," near Guildford, for Mr. William H. Burbidge, Messrs. Wadmore & Baker, architects, 35, Great St. Helens, E.C. Quantities supplied:—

Richard Nye, Guildford	£1,567 0 0
Carter & Son, London....	1,535 0 0
Macey & Sons, London	1,426 0 0
A. W. Moon, Guildford	1,313 0 0
W. & G. King, Dorking....	1,235 0 0
Wm. J. Mitchell, Dulwich	1,235 0 0
Pearce & Clark, Guildford	1,225 0 0
Wm. Smith & Sons, Guildford....	1,200 0 0
Mitchell Bros.,* Shalford, Guildford	1,049 0 0

* Accepted.

HACKNEY.—For providing new entrance for the Girls' Department and new Infants' Teachers' Room, for the Shap-street School (Hackney X), for the School Board for London. Mr. T. J. Bailey, architect:—

G. Moore	£237 10 0
W. Johnson	138 10 0
J. W. Roy....	133 10 0
T. Bendon	130 10 0
Simmonds Bros.	129 0 0
J. Godfrey & Son....	125 0 0
W. M. Dabbs	124 0 0
Norris & Luke....	123 0 0
North Bros.	121 0 0
T. Henderson	110 13 0
G. Barker*....	102 0 0

* Recommended by the Works Committee for acceptance.

HIGH WYCOMBE.—For new buildings for Christ Church, High Wycombe, Bucks. Mr. Arthur Vernon, architect, High Wycombe:—

W. Woodbridge....	£3,080 0 0
A. H. Reavell	2,896 0 0
S. Grist	2,688 0 0
Nash & Sons	2,660 0 0
Flint & Maddeford	2,549 0 0
G. Cooper & Co.	2,526 0 0
G. H. Gibson....	2,460 0 0
C. H. Hunt	2,443 0 0
W. R. Loosley (accepted)....	2,277 0 0

HORNSEY.—For a cottage, cart-sheds, &c., at Lothair-road Depôt, for the Hornsey Local Board. Mr. T. de Courcy Meade, Surveyor:—

Kerry, Highgate	£790 0 0
Reynolds, Kilburn	684 0 0
Dixon, Highgate	660 0 0
C. Wall, Chelsea	619 0 0
Dabbs, Stamford Hill....	584 0 0
Willmott, Hitchin	575 0 0
Shurmur, Lower Clapton (accepted)...	549 0 0

HORNSEY.—For making up Wollaston and Atterbury roads, for the Hornsey Local Board. Mr. T. de Courcy Meade, Surveyor:—

	Wollaston-road.	Atterbury-road.
Jackson & Sons, Finsbury Park...	£575	£437*
W. J. Williamson, Green-lanes	555	448
Mowlem & Co., Westminster.....	435*	566
P. Aspinall, jun., Hoxton	638	478

* Accepted.

LONDON.—For the erection of a block of residential flats at Haarlem-road. Messrs. Lewen-Sharp & Arpin, architects, 3, Duke-street, Adelphi, W.C.:—

Patman & Fotheringham	£3,694	0	0
Leslie & Knight,* Kensington	3,490	0	0

* Accepted.

LONDON.—For proposed additions to the Boys' Public Day School, Kentish Town. Mr. Henry Young, architect, Bedford:—

Hobson, London	£1,596	0	0
Kynock, London	1,585	0	0
Harrison, Bedford	1,567	0	0
Foster, Bedford	1,511	0	0
White, Bedford	1,497	0	0
Melcombe, Bedford	1,415	0	0
Haynes (accepted)	1,293	0	0

LUTON.—For the erection of villa residence, Brook-street, Luton, for Mr. Merchant. Mr. W. J. Pearson, architect, Market Hill, Luton. Quantities not supplied:—

Ford	£905	0	0
Wright	895	0	0
Slough Bros.	849	0	0
Neville (accepted with deductions)	835	0	0

[All of Luton.]

MAIDENHEAD.—For additions to residence, Bourne End, Maidenhead, for Mr. F. C. Frye. Mr. Arthur Vernon, architect, High Wycombe:—

Sealy	£550	0	0
Woodbridge	486	0	0
Gibson	443	0	0
Silver	419	0	0
Hunt (accepted)	379	0	0

ORPINGTON (Kent).—For alterations and additions at Sunnyside, Orpington, Kent, for Mr. G. Allen. Mr. J. M. Hooker, architect, London:—

Crossley	£1,450	0	0
Owens	1,449	0	0
Longmire	1,355	0	0
Holloway	1,340	0	0
Wiltshire, Sevenoaks	1,339	0	0
Jerrard	1,333	0	0
Johnson	1,140	0	0

PUTNEY.—For stable buildings on site of Fairfax-garden, High-street, Putney, for Mr. J. Kidner, Putney. Messrs. Weston & Sons, architects, Brixton:—

Young, Wandsworth	£789	0	0
Grant, Putney	700	0	0
Jones Bros., Putney (accepted)	699	15	0

ST. HELEN'S.—For alterations to brewery. Messrs. Inskipp & Mackenzie, architects, 5, Bedford-row, London:—

J. Latham	£963	0	0
W. Harrison (accepted)	899	17	2

ST. NEOTS.—For new Congregational church. Mr. Edward J. Paine, architect, 11, Great James-street, Bedford-row, London. Quantities supplied:—

Saint & Sons, St. Ives	£4,000	0	0
S. Foster, Bedford	3,997	0	0
E. Twelvetrees, Biggleswade	3,820	0	0
Edev & Son, St. Neots	3,798	0	0
J. P. White, Bedford	3,784	0	0
Thackray & Son, Huntingdon	3,493	0	0
W. Wade, St. Neots	3,373	0	0
W. Osborne, St. Neots	3,328	0	0
Page Brothers, Buckden	3,255	0	0

SEVENOAKS (Kent).—For the erection of new Baptist Sunday Schools at Sevenoaks, Kent:—

Wiltshire (accepted)	£880	0	0

[No competition.]

STOKE NEWINGTON.—For carrying out the additions and improvements to the High-street School, Stoke Newington (Hackney D), for the School Board for London. Mr. T. J. Bailey, architect:—

Ward, Clarke, & Co.	£2,135	0	0
Simmonds Bros.	1,997	0	0
C. Wall	1,650	0	0
W. M. Dabbs	1,549	0	0
J. Godfrey & Son	1,527	0	0
W. Johnson	1,499	0	0
Norris & Luke*	1,447	0	0

Recommended by the Works Committee for acceptance.

SAWBRIDGEWORTH.—For the erection of a new malting for Messrs. Barnard & Co. Messrs. Inskipp & Mackenzie, architects, 5, Bedford-row, London. Quantities by Messrs. Curtis & Son:—

J. Johnstone, London	£7,249	0	0
F. Hitch, Ware	6,438	0	0
J. & A. Brown, Braintree (accepted)	5,856	0	0

TUNBRIDGE WELLS.—For building stables situate at Woodbury Park, Tunbridge Wells, for Mr. Knocker. Mr. George Friend, architect:—

Soper & Jones	£496	0	0
E. Thurbon	435	15	0
Hudson	435	10	0
Jones (accepted)	409	0	0

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